Bidding Document for Procurement of Information Systems

Design, supply, installation, testing and commissioning of the Integrated Road Safety Enforcement System (IRSES) and its Operation, Maintenance, and Management for 5 years

(Two-Envelope Bidding Process with e-Procurement)

National Competitive Bidding

(Without Prequalification)

Procurement of:

Design, supply, installation, testing and commissioning of the Integrated Road Safety Enforcement System (IRSES) and its Operation, Maintenance, and Management for 5 years

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Purchaser: *Director (Projects), Himachal Pradesh Roads and Infrastructure Development Corporation Limited (HPRIDCL)*

Project: ***Himachal Pradesh State Roads Transformation Project***

Contract title: *Design, supply, installation, testing and commissioning of the Integrated Road Safety Enforcement System (IRSES) and its Operation, Maintenance, and Management for 5 years*

Country: India

Loan No.: *9066-IN*

RFB No: *IN-HPRIDC – 436711-GO-RFB*

Issued on: *11:00 hrs (IST) on 05.02.2025*

Bidding Document

Summary

Specific Procurement Notice

Specific Procurement Notice - Request for Bids (RFB)

The template attached is the Specific Procurement Notice for Request for Bids method, two-envelope e-Procurement Bidding process.

Request for Bids - Information Systems Design, Supply, and Installation **(Two-Envelope Bidding Process with e-Procurement and without prequalification)**

PART 1 – BIDDING PROCEDURES

Section I - Instructions to Bidders (ITB)

This Section provides relevant information to help Bidders prepare their Bids. It is based on a two-envelope e-Procurement Bidding process. Information is also provided on the submission, opening, and evaluation of Bids and on the award of Contracts.

Section II - Bid Data Sheet (BDS)

This Section consists of provisions that are specific to each procurement and that supplement the information or requirements included in Section I, Instructions to Bidders.

Section III - Evaluation and Qualification Criteria

This Section specifies which of the following methodology will be used to determine the Most Advantageous Bid. The methodology options are:

(a) where **rated criteria are used**: The Bidder that meets the qualification criteria and whose Bid:

(i) is substantially responsive, and

(ii) is the best evaluated Bid (i.e. the Bid with the highest combined technical/quality/price score); or

(b) where **rated criteria are not used**: The Bidder that meets the qualification criteria and whose Bid has been determined to be:

(i) substantially responsive to the bidding document, and

(ii) the lowest evaluated cost.

Section IV - Bidding Forms

This Section contains the forms which are to be completed by the Bidder and submitted as part of the Bid

Section V - Eligible Countries

This Section contains information regarding eligible countries.

Section VI - Fraud and Corruption

This section includes the Fraud and Corruption provisions which apply to this Bidding process.

PART 2 – PURCHASER'S REQUIREMENTS

Section VII - Requirements for the Information System

This Section contains Technical Requirements, Implementation Schedule, and System Inventory Tables, as well as Background and Informational Materials

PART 3 – CONDITIONS OF CONTRACT AND CONTRACT FORMS

Section VIII - General Conditions of Contract (GCC)

This Section contains the general clauses to be applied in all contracts.

Section IX - Special Conditions of Contract (SCC)

This Section consists of Part A, Contract Data which contains data, and Part B, Specific Provisions which contains clauses specific to each contract. The contents of this Section modify or supplement the General Conditions and shall be prepared by the Purchaser.

Section X - Contractual Forms

This Section contains the Letter of Acceptance, Contract Agreement and other relevant forms.

Specific Procurement Notice – Request for Bids

Request for Bid
Information Systems
(Design, Supply and Installation)

E-Procurement Notice
(Two-Envelope e-Procurement Bidding Process)

Purchaser: *Director (Projects), HPRIDCL*

Project: ***Himachal Pradesh State Roads Transformation Project (HPSRTP)***

Contract title: *Design, supply, installation, testing and commissioning of the Integrated Road Safety Enforcement System (IRSES) and its Operation, Maintenance, and Management for 5 years*

Country: India

Loan No.: *9066-IN*

RFB No: *IN-HPRIDC - 436711-GO-RFB*

Issued on: *05.02.2025*

1. The Government of Himachal Pradesh through Government of India (hereinafter called "Borrower") has received financing from the World Bank toward the cost of the Himachal Pradesh State Roads Transformation Project (HPSRTP), and intends to apply part of the proceeds toward payments under the contract for "Design, supply, installation, testing and commissioning of the Integrated Road Safety Enforcement System (IRSES) and its Operation, Maintenance, and Management for 5 years. For this contract, the Borrower shall process the payments using the Direct Payment disbursement method, as defined in the World Bank's Disbursement Guidelines for Investment Project Financing.

2. The Himachal Pradesh Road and Other Infrastructure Development Corporation Limited (HPRIDCL), Government of Himachal Pradesh (implementing agency) now invites sealed Bids from eligible Bidders for Establish an Integrated Road Safety Enforcement System (IRSES) and a Road Safety Enforcement Control Centre (RSECC) in Shimla with field camera systems at different locations in Shimla, Kangra and Mandi districts and its Operation, Maintenance, and Management for 5 years. Detailed specifications of equipment, specific experience or capabilities; such qualification requirements are described in Section VII, requirement of information systems of the Bid Document.

3. Bidding will be conducted through national competitive procurement using Request for Bids (RFB) as specified in the World Bank's "Procurement Regulations for IPF Borrowers, July 2016, Revised November 2017 and August 2018" ("Procurement Regulations"), and is open to all eligible Bidders as defined in the Procurement Regulations. In addition, please refer to paragraphs 3.14 and 3.15 setting forth the World Bank's policy on conflict of interest.

4. The bidding document is available online on GoHP's e-procurement portal i.e., https://hptenders.gov.in/ for a non-refundable fee of *INR* ***25,000/- (INR Twenty Five Thousand only).*** The method of payment will be Demand Draft payable at Shimla in

favor of "Director (Projects), HPRIDCL". Payment documents are to be submitted subsequently as per the procedure described in paragraph 8 below. Bidders will be required to register on the website, which is free of cost. The bidders would be responsible for ensuring that any addenda available on the website are also downloaded and incorporated.

5. For submission of the bids, the bidder is required to have Digital Signature Certificate (DSC) from one of the authorized Certifying Authorities, authorized by Government of India for issuing DSC. Bidders can see the list of licensed CA's from the link (www.cca.gov.in). Aspiring bidders who have not obtained the user ID and password for participating in e-procurement in this Project, may obtain the same from the website: https://hptenders.gov.in/.

   For any clarification on registration and online bid submission, the bidder may contact:

   Director (Projects), HPRIDCL,
   Nirman Bhawan, Nigam Vihar,
   Shimla-171002 Himachal Pradesh (India)
   Telephone number +91-117-2627602
   Facsimile number: +91-117-2620663,
   email address: pdsrp-hp@nic.in

6. Bids must be submitted online on GoHP's e-procurement portal i.e., https://hptenders.gov.in/ (website) 15:00 hrs (IST) on 05.03.2024. Any bid or modifications to bid (including discount) received outside e-procurement system will not be considered. The electronic bidding system would not allow any late submission of bids. The "TECHNICAL PART" of the Bids will be publicly opened online in the presence of the Bidders' designated representatives and anyone who chooses to attend at the address below on 15:30 hrs (IST) on 05.03.2024.

7. All Bids must be accompanied by a "Bid Security" of INR 1,10,00,000 (Rupees One Crore Ten Lakhs only). The Bid Security documents are to be submitted subsequently as per the procedure described in paragraph 8 below.

8. The bidders are required to submit (a) original payment documents towards the cost of bid document and registration on e-procurement website (if not previously registered); (b) original bid security in approved form; and (c) original affidavit regarding correctness of information furnished with bid document with name and complete address before the opening of the technical part of Bid given above, either by registered post/speed post/ courier or by hand, failing which such bids will be declared non-responsive and will not be opened.

9. Other details can be seen in the bidding document. The Purchaser shall not be held liable for any delays due to system failure beyond its control. Even though the system will attempt to notify the bidders of any bid updates, the Purchaser shall not be liable for any information not received by the bidder. It is the bidders' responsibility to verify the website for the latest information related to this bid.

10. Attention is drawn to the Procurement Regulations requiring the Borrower to disclose information on the successful bidder's beneficial ownership, as part of the Contract Award Notice, using the Beneficial Ownership Disclosure Form as included in the bidding document.

11. The address (es) referred to above is (are):

Director (Projects), HPRIDCL,
Nirman Bhawan, Nigam Vihar,

Shimla-171002 Himachal Pradesh (India)

Telephone number +91-117-2627602

Facsimile number: +91-117-2620663,

Email address: pdsrp-hp@nic.in

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PART 1 – BIDDING PROCEDURES

SECTION I - INSTRUCTIONS TO BIDDERS

A. GENERAL

1. Scope of Bid

1.1 The Purchaser, as indicated **in the BDS**, or its duly authorized Purchasing Agent if so specified **in the BDS** (interchangeably referred to as "the Purchaser" issues this bidding document for the supply and installation of the Information System as specified in Section VII, Purchaser's Requirements. The name, identification and number of lots (contracts) of this RFB are specified **in the BDS.**

1.2 Unless otherwise stated, throughout this bidding document definitions and interpretations shall be as prescribed in the Section VIII, General Conditions of Contract.

1.3 Throughout this bidding document:

(a) the term "in writing" means communicated in written form (e.g. by mail, e-mail, fax, including if specified **in the BDS**, distributed or received through the electronic-procurement system used by the Purchaser) with proof of receipt;

(b) if the context so requires, "singular" means "plural" and vice versa; and

(c) "Day" means calendar day, unless otherwise specified as "Business Day". A Business Day is any day that is an official working day of the Borrower. It excludes the Borrower's official public holidays.

2. Source of Funds

2.1 The Borrower or Recipient (hereinafter called "Borrower") indicated **in the BDS** has applied for or received financing (hereinafter called "funds") from the International Bank for Reconstruction and Development or the International Development Association (hereinafter called "the Bank") in an amount specified **in the BDS** toward the project named **in the BDS**. The Borrower intends to apply a portion of the funds to eligible payments under the contract(s) for which this bidding document is issued.

2.2 Payments by the Bank will be made only at the request of the Borrower and upon approval by the Bank in accordance with the terms and conditions of the Loan (or other financing) Agreement between the Borrower and the Bank (hereinafter called the Loan Agreement), and will be subject in all respects to the terms and conditions of that Loan (or other financing) Agreement. The Loan (or other financing) Agreement prohibits a withdrawal from the loan account for the purpose of any payment to persons or entities, or for any import of equipment, materials or any other goods, if such payment or import is prohibited by a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations. No party other than the Borrower shall derive any rights from the Loan (or other financing) Agreement or have any claim to the funds.

3. Fraud and Corruption

3.1 The Bank requires compliance with the Bank's Anti-Corruption Guidelines and its prevailing sanctions policies and procedures as set forth in the WBG's Sanctions Framework, as set forth in Section VI.

3.2 In further pursuance of this policy, Bidders shall permit and shall cause their agents (whether declared or not), subcontractors, subconsultants, service providers, suppliers, and their personnel, to permit the Bank to inspect all accounts, records and other documents relating to any initial selection process, prequalification process, bid submission, proposal submission and contract performance (in the case of award), and to have them audited by auditors appointed by the Bank.

4. Eligible Bidders

4.1 A Bidder may be a firm that is a private entity, a state-owned enterprise or institution subject to ITB 4.6, or any combination of such entities in the form of a joint venture (JV) under an existing agreement or with the intent to enter into such an agreement supported by a letter of intent. In the case of a joint venture, all members shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms. The JV shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the members of the JV during the Bidding process and, in the event the JV is awarded the Contract, during contract execution. Unless specified **in the BDS**, there is no limit on the number of members in a JV.

4.2 A Bidder shall not have a conflict of interest. Any Bidder found to have a conflict of interest shall be disqualified. A Bidder may be considered to have a conflict of interest for the purpose of this Bidding process, if the Bidder:

(a) directly or indirectly controls, is controlled by or is under common control with another Bidder; or

(b) receives or has received any direct or indirect subsidy from another Bidder; or

(c) has the same legal representative as another Bidder; or

(d) has a relationship with another Bidder, directly or through common third parties, that puts it in a position to influence the Bid of another Bidder, or influence the decisions of the Purchaser regarding this Bidding process; or

(e) any of its affiliates participates as a consultant in the preparation of the design or technical specifications of the Information System that are the subject of the Bid; or

(f) any of its affiliates has been hired (or is proposed to be hired) by the Purchaser or Borrower as Project Manager for the Contract implementation; or

(g) would be providing goods, works, or non-consulting services resulting from or directly related to consulting services for the preparation or implementation of the project specified in the BDS ITB 2.1 that it provided or were provided by any affiliate that directly or indirectly controls, is controlled by, or is under common control with that firm; or

(h) has a close business or family relationship with a professional staff of the Borrower (or of the project implementing agency, or of a recipient of a part of the loan) who: (i) are directly or indirectly involved in the preparation of the bidding document or specifications of the Contract, and/or the Bid evaluation process of such Contract; or (ii) would be involved in the implementation or supervision of such Contract unless the conflict stemming from such relationship has been resolved in a manner acceptable to the Bank throughout the Bidding process and execution of the Contract.

4.3 A firm that is a Bidder (either individually or as a JV member) shall not participate as a Bidder or as JV member in more than one Bid except for permitted alternative Bids. Such participation shall result in the disqualification of all Bids in which the firm is involved. However, this does not limit the participation of a Bidder

as subcontractor in another Bid or of a firm as a subcontractor in more than one Bid.

4.4 A Bidder may have the nationality of any country, subject to the restrictions pursuant to ITB 4.8. A Bidder shall be deemed to have the nationality of a country if the Bidder is constituted, incorporated or registered in and operates in conformity with the provisions of the laws of that country, as evidenced by its articles of incorporation (or equivalent documents of constitution or association) and its registration documents, as the case may be. This criterion also shall apply to the determination of the nationality of proposed sub-contractors or sub-consultants for any part of the Contract including related Services.

4.5 A Bidder that has been sanctioned by the Bank, pursuant to the Bank's Anti-Corruption Guidelines, and in accordance with its prevailing sanctions policies and procedures as set forth in the WBG's Sanctions Framework as described in Section VI paragraph 2.2 d., shall be ineligible to be initially selected for, prequalified for, bid for, propose for, or be awarded a Bank-financed contract or benefit from a Bank-financed contract, financially or otherwise, during such period of time as the Bank shall have determined. The list of debarred firms and individuals is available at the electronic address **specified in the BDS**.

4.6 Bidders that are state-owned enterprises or institutions in the Purchaser's Country may be eligible to compete and be awarded a Contract(s) only if they can establish, in a manner acceptable to the Bank, that they (i) are legally and financially autonomous (ii) operate under commercial law, and (iii) are not under supervision of the Purchaser.

4.7 A Bidder shall not be under suspension from bidding by the Purchaser as the result of the operation of a Bid–Securing Declaration or Proposal-Securing Declaration.

4.8 Firms and individuals may be ineligible if so indicated in Section V and (a) as a matter of law or official regulations, the Borrower's country prohibits commercial relations with that country, provided that the Bank is satisfied that such exclusion does not preclude effective competition for the supply of goods or the contracting of works or services required; or (b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, the Borrower's country prohibits any import of goods or contracting of works or services from that country, or any payments to any country, person, or entity in that country.

4.9 This Bidding is open for all eligible Bidders, unless otherwise specified in ITB 15.2.

4.10 A Bidder shall provide such documentary evidence of eligibility satisfactory to the Purchaser, as the Purchaser shall reasonably request.

4.11 A firm that is under a sanction of debarment by the Borrower from being awarded a contract is eligible to participate in this procurement, unless the Bank, at the Borrower's request, is satisfied that the debarment; (a) relates to fraud or corruption, and (b) followed a judicial or administrative proceeding that afforded the firm adequate due process.

5. Eligible Goods and Services

5.1 The Information Systems to be supplied under the Contract and financed by the Bank may have their origin in any country in accordance with Section V, Eligible Countries.

5.2 For the purposes of this bidding document, the term "Information System" means all:

(a) the required information technologies, including all information processing and communications-related hardware, software, supplies, and consumable items that the Supplier is required to supply and install under the Contract, plus all associated documentation, and all other materials and goods to be supplied, installed, integrated, and made operational; and

(b) the related software development, transportation, insurance, installation, customization, integration, commissioning, training, technical support, maintenance, repair, and other services necessary for proper operation of the Information System to be provided by the selected Bidder and as specified in the Contract.

5.3 For purposes of ITB 5.1 above, "origin" means the place where the goods and services making the Information System are produced in or supplied from. An Information System is deemed to be produced in a certain country when, in the territory of that country, through software development, manufacturing, or substantial and major assembly or integration of components, a commercially recognized product results that is substantially different in basic characteristics or in purpose or utility from its components.

B. CONTENTS OF BIDDING DOCUMENT

6. Sections of Bidding Document

6.1 The bidding document consists of Parts 1, 2, and 3, which include all the sections indicated below, and should be read in conjunction with any Addenda issued in accordance with ITB 8:

PART 1 - Bidding Procedures

Section I - Instructions to Bidders (ITB)

Section II - Bid Data Sheet (BDS)

Section III - Evaluation and Qualification Criteria

Section IV - Bidding Forms

Section V - Eligible Countries

Section VI - Fraud and Corruption

PART 2 - Purchaser's Requirements

Section VII - Requirements of the IS, including:

- Technical Requirements
- Implementation Schedule
- System Inventory Tables
- Background and Informational Materials

PART 3 - Contract

Section VIII - General Conditions of Contract

Section IX - Special Conditions of Contract

Section X - Contract Forms

6.2 The Specific Procurement Notice – Request for Bids (RFB) issued by the Purchaser is not part of this bidding document.

6.3 Unless obtained directly from the Purchaser, the Purchaser is not responsible for the completeness of the document, responses to requests for clarification, the Minutes of the pre-Bid meeting (if any), or Addenda to the bidding document in accordance with ITB 8. In case of any contradiction, documents obtained directly from the Purchaser shall prevail.

6.4 The Bidder is expected to examine all instructions, forms, terms, and specifications in the bidding document and to furnish with its Bid all information or documentation as is required by the bidding document.

7. Clarification of Bidding Document, Site Visit, Pre-bid Meeting

7.1 The electronic bidding system **specified in the BDS** provides for online clarifications. A Bidder requiring any clarification of the Bidding Document may notify the Purchaser online. Clarifications requested through any other mode shall not be considered by the Purchaser. The Purchaser will respond to any request for clarification, provided that such request is received prior to the deadline for submission of bids within a period **specified in the BDS.** Description of clarification sought and the response of the Purchaser shall be uploaded for information of all Bidders without identifying the source of request for clarification. Should the clarification result in changes to the essential elements of the Bidding Document, the Purchaser shall amend the Bidding Document following the procedure under ITB 8 and ITB 23.2. It is the bidder's responsibility to check on the e-procurement system, for any addendum/ amendment/ corrigendum to the bidding document.

7.2 The Bidder may wish to visit and examine the site where the Information System is to be installed and its surroundings and obtain for itself on its own responsibility all information that may be necessary for preparing the Bid and entering into a contract. The costs of visiting the site shall be at the Bidder's own expense.

7.3 The Bidder and any of its personnel or agents will be granted permission by the Purchaser to enter upon its premises and lands for the purpose of such visit, but only upon the express condition that the Bidder, its personnel, and agents will release and indemnify the Purchaser and its personnel and agents from and against all liability in respect thereof, and will be responsible for death or personal injury, loss of or damage to property, and any other loss, damage, costs, and expenses incurred as a result of the inspection.

7.4 The Bidder's designated representative is invited to attend a pre-Bid meeting and/or a site visit, if provided for **in the BDS**. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.

7.5 The Bidder is requested, to submit any questions only through the e-procurement portal, not later than one week before the meeting. Clarifications requested through any other mode shall not be considered by the Purchaser.

7.6 Minutes of the pre-Bid meeting, including the text of the questions raised without identifying the source, and the responses given, together with any responses prepared after the meeting, shall be uploaded on the e-procurement system for information of all Bidders without identifying the source of request for clarification. Any modification to the bidding document that may become necessary as a result of the pre-Bid meeting shall be made by the Purchaser exclusively through the issue of an Addendum following

the procedure under ITB 8 and ITB 23.2, and not through the minutes of the pre-Bid meeting.

7.7 Nonattendance at the pre-Bid meeting will not be a cause for disqualification of a Bidder.

8. Amendment of Bidding Document

8.1 At any time prior to the deadline for submission of bids, the Purchaser may amend the Bidding Document by issuing addenda. The addenda will appear on the e-procurement system under "Latest Corrigendum" and email notification is also automatically sent to those bidders who have started working on the tender, or as **otherwise specified in BDS.**

8.2 Any addendum thus issued shall be part of the Bidding Document and shall be deemed to have been communicated to all the bidders.

8.3 To give prospective Bidders reasonable time in which to take an addendum into account in preparing their Bids, the Purchaser may, at its discretion, extend the deadline for the submission of bids, pursuant to ITB 23.2.

C. PREPARATION OF BIDS

9. Cost of Bidding

9.1 The Bidder shall bear all costs associated with the preparation and submission of its Bid, and the Purchaser shall not be responsible or liable for those costs, regardless of the conduct or outcome of the Bidding process.

10. Language of Bid

10.1 The Bid, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Purchaser, shall be written in the language specified **in the BDS.** Supporting documents and printed literature that are part of the Bid may be in another language provided they are accompanied by an accurate translation of the relevant passages in the language specified **in the BDS**, in which case, for purposes of interpretation of the Bid, such translation shall govern.

11. Documents comprising the Bid

11.1 The Bid shall comprise two Parts, namely the Technical Part and the Financial Part. These two Parts shall be submitted simultaneously.

11.2 The **Technical Part** shall contain the following:

(a) Letter of Bid - Technical Part: prepared in accordance with ITB 12;

(b) Bid Security or Bid-Securing Declaration: in accordance with ITB 20;

(c) Alternative Bid - Technical Part: if permissible in accordance with ITB 13;

(d) **Authorization:** written confirmation authorizing the

signatory of the Bid to commit the Bidder, in accordance with ITB 21.3, and in accordance with ITB 21.4 in case of a JV;

(e) Eligibility of Information System: documentary evidence established in accordance with ITB 15 that the Information System offered by the Bidder in its Bid or in any alternative Bid, if permitted, are eligible;

(f) Bidder's Eligibility: documentary evidence in accordance with ITB 17 establishing the Bidder's eligibility and qualifications to perform the Contract if its Bid is accepted;

(g) Conformity: documentary evidence in accordance with ITB 16, that the Information System offered by the Bidder conform to the bidding document;

(h) **Subcontractors:** list of subcontractors, in accordance with ITB 16.4;

(i) **Intellectual Property**: a list of: Intellectual Property as defined in GCC Clause 15;

(i) all Software included in the Bid, assigning each item to one of the software categories defined in GCC Clause 1.1 (c):

a. System, General Purpose, and Application Software; or

b. Standard and Custom Software;

(ii) all Custom Materials, as defined in GCC Clause 1.1 (c), included in the Bid;

All Materials not identified as Custom Materials shall be deemed Standard Materials, as defined in GCC Clause 1.1 (c);

Re-assignments among the Software and Materials categories, if necessary, will be made during the implementation of the Contract according to GCC Clause 39 (Changes to the Information System); and

(j) any other document required in the BDS.

11.3 The **Financial Part** shall contain the following:

(a) **Letter of Bid – Financial Part:** prepared in accordance with ITB 12 and ITB 17;

(b) **Price Schedules**: completed online in accordance with ITB

12 and ITB 17;

(c) **Alternative Bid - Financial Part;** if permissible in accordance with ITB 13, the Financial Part of any Alternative Bid;

(d) any other document **required in the BDS.**

11.4 The Technical Part shall not include any financial information related to the Bid price. Where material financial information related to the Bid price is contained in the Technical Part, the Bid shall be declared non-responsive.

11.5 In addition to the requirements under ITB 11.2, Bids submitted by a JV shall include a copy of the Joint Venture Agreement entered into by all members indicating at least the parts of the Information System to be executed by the respective members. Alternatively, a letter of intent to execute a Joint Venture Agreement in the event of a successful Bid shall be signed by all members and submitted with the Bid, together with a copy of the proposed Agreement indicating at least the parts of the Information System to be executed by the respective members.

11.6 The Bidder shall furnish in the Letter of Bid – Financial Part information on commissions and gratuities, if any, paid or to be paid to agents or any other party relating to this Bid.

12. Process of Bid Preparation and Submission

12.1. The Bidder shall prepare the Letter of Bid – Technical Part, and Letter of Bid – Financial Part and appropriate Price Schedules using the relevant forms furnished in Section IV, Bidding Forms. The forms must be completed without any alterations to the text, and no substitutes shall be accepted except as provided under ITB 21.5. All blank spaces shall be filled in with the information requested.

12.2. Entire Bid including the Letter of Bid – Technical Part, Letter of Bid – Financial Part and filled-up Price Schedules shall be submitted online on e-procurement system specified in ITB 7.1. Details and process of online submission of the bid and relevant documents are given in the website mentioned above. Scanned copies of documents listed in clauses 11 and 12.3 should also be uploaded on this website.

12.3 Submission of Original Documents: The bidders are required to separately submit (i) original payment documents towards the cost of bid document and registration on e-procurement website (if not previously registered) (as per RFB); (ii) original bid security or bid securing declaration as the case may be, in approved form; and (iii) original affidavit regarding correctness of information furnished with bid document, with the office **specified in the BDS**, before the opening of the technical part of the Bid, either by registered/speed post/courier or by hand,

failing which such bids will be declared non-responsive and will not be opened. Hard copy of rest of the bid is not to be submitted.

13. Alternative Bids

13.1 The BDS indicates whether alternative Bids are allowed. If they are allowed, the **BDS** will also indicate whether they are permitted in accordance with ITB 13.3, or invited in accordance with ITB 13.2 and/or ITB 13.4.

13.2 When alternatives to the Time Schedule are explicitly invited, a statement to that effect will be included **in the BDS**, and the method of evaluating different time schedules will be described in Section III, Evaluation and Qualification Criteria.

13.3 Except as provided under ITB 13.4 below, Bidders wishing to offer technical alternatives to the Purchaser's requirements as described in the bidding document must also provide: (i) a price at which they are prepared to offer an Information System meeting the Purchaser's requirements; and (ii) all information necessary for a complete evaluation of the alternatives by the Purchaser, including drawings, design calculations, technical specifications, breakdown of prices, and proposed installation methodology and other relevant details. Only the technical alternatives, if any, of the Bidder with the Most Advantageous Bid conforming to the basic technical requirements shall be considered by the Purchaser.

13.4 When Bidders are invited **in the BDS** to submit alternative technical solutions for specified parts of the system, such parts shall be described in Section VII, Purchaser's Requirements. Technical alternatives that comply with the performance and technical criteria specified for the Information System shall be considered by the Purchaser on their own merits, pursuant to ITB 31 and ITB 35.

14. Documents Establishing the Eligibility of the Information System

14.1 To establish the eligibility of the Information System in accordance with ITB 5, Bidders shall complete the country of origin declarations in the Price Schedule Forms, included in Section IV, Bidding Forms.

15. Documents Establishing the Eligibility and Qualifications of the Bidder

15.1 To establish its eligibility and qualifications to perform the Contract in accordance with Section III, Evaluation and Qualification Criteria, the Bidder shall provide the information requested in the corresponding information sheets included in Section IV, Bidding Forms.

15.2 In the event that prequalification of potential Bidders has been undertaken as stated **in the BDS**, only Bids from prequalified Bidders shall be considered for award of Contract. These qualified Bidders should submit with their Bids any information updating their original prequalification applications or,

alternatively, confirm in their Bids that the originally submitted prequalification information remains essentially correct as of the date of Bid submission.

16. Documents Establishing Conformity of the Information System

16.1 Pursuant to ITB 11.2 (g), the Bidder shall furnish, as part of its Bid documents establishing the conformity to the bidding documents of the Information System that the Bidder proposes to design, supply and install under the Contract

16.2 The documentary evidence of conformity of the Information System to the bidding documents including:

(a) Preliminary Project Plan describing, among other things, the methods by which the Bidder will carry out its overall management and coordination responsibilities if awarded the Contract, and the human and other resources the Bidder proposes to use. The Preliminary Project Plan must also address any other topics **specified in the BDS**. In addition, the Preliminary Project Plan should state the Bidder's assessment of what it expects the Purchaser and any other party involved in the implementation of the Information System to provide during implementation and how the Bidder proposes to coordinate the activities of all involved parties;

(b) written confirmation that the Bidder accepts responsibility for the successful integration and inter-operability of all components of the Information System as required by the bidding documents;

(c) an item-by-item commentary on the Purchaser's Technical Requirements, demonstrating the substantial responsiveness of the Information System offered to those requirements. In demonstrating responsiveness, the Bidder is encouraged to use the Technical Responsiveness Checklist (or Checklist Format) in the Sample Bidding Forms (Section IV). The commentary shall include explicit cross-references to the relevant pages in the supporting materials included in the bid. Whenever a discrepancy arises between the item-by-item commentary and any catalogs, technical specifications, or other preprinted materials submitted with the bid, the item-by-item commentary shall prevail. Supplies for any particular item in each schedule of the bid should be from one manufacturer only for the entire quantity required. Bids from agents offering supplies from different manufacturers for the same item of the schedule in the bid other than alternative bids will be treated as non-responsive;

(d) support material (e.g., product literature, white papers,

narrative descriptions of technologies and/or technical approaches), as required and appropriate; and

(e) any separate and enforceable contract(s) for Recurrent Cost items which the BDS ITB 17.2 required Bidders to bid.

16.3 References to brand names or model numbers or national or proprietary standards designated by the Purchaser in the bidding documents are intended to be descriptive and not restrictive. Except where explicitly **prohibited in the BDS** for specific items or standards, the Bidder may substitute alternative brand/model names or standards in its bid, provided that it demonstrates to the Purchaser's satisfaction that the use of the substitute(s) will result in the Information System being able to perform substantially equivalent to or better than that specified in the Technical Requirements.

16.4 For major items of the Information System as listed by the Purchaser in Section III, Evaluation and Qualification Criteria, which the Bidder intends to purchase or subcontract, the Bidder shall give details of the name and nationality of the proposed subcontractors, including manufacturers, for each of those items. In addition, the Bidder shall include in its Bid information establishing compliance with the requirements specified by the Purchaser for these items. Quoted rates and prices will be deemed to apply to whichever subcontractor is appointed, and no adjustment of the rates and prices will be permitted.

16.5 The Bidder shall be responsible for ensuring that any subcontractor proposed complies with the requirements of ITB 4, and that any goods or services to be provided by the subcontractor comply with the requirements of ITB 5 and ITB 16.1.

17. Bid Prices

17.1 All Goods and Services identified in the Supply and Installation Cost Sub-Tables in System Inventory Tables in Section VII, and all other Goods and Services proposed by the Bidder to fulfill the requirements of the Information System, must be priced separately and summarized in the corresponding cost tables in the Sample Bidding Forms (Section IV), in accordance with the instructions provided in the tables and in the manner specified below.

17.2 **Unless otherwise specified in the BDS**, the Bidder must also bid Recurrent Cost Items specified in the Technical Requirements, Recurrent Cost Sub-Table of the System Inventory Tables in Section VII (if any). These must be priced separately and summarized in the corresponding cost tables in the Sample Bidding Forms (Section IV), in accordance with

the instructions provided in the tables and in the manner specified below:

(a) **if specified in the BDS,** the Bidder must also bid separate enforceable contracts for the Recurrent Cost Items not included in the main Contract;

(b) prices for Recurrent Costs are all-inclusive of the costs of necessary Goods such as spare parts, software license renewals, labor, etc., needed for the continued and proper operation of the Information System and, if appropriate, of the Bidder's own allowance for price increases;

(c) prices for Recurrent Costs beyond the scope of warranty services to be incurred during the Warranty Period, defined in GCC Clause 29.4 and prices for Recurrent Costs to be incurred during the Post-Warranty Period, defined in SCC Clause 1.1. (e) (xiii), shall be quoted as Service prices on the Recurrent Cost Sub-Table in detail, and on the Recurrent Cost Summary Table in currency totals.

17.3 Unit prices must be quoted at a level of detail appropriate for calculation of any partial deliveries or partial payments under the contract, in accordance with the Implementation Schedule in Section VII), and with GCC and SCC Clause 12 – Terms of Payment. Bidders may be required to provide a breakdown of any composite or lump-sum items included in the Cost Tables

17.4 The price of items that the Bidder has left blank in the cost tables provided in the Sample Bid Forms (Section IV) shall be assumed to be included in the price of other items. Items omitted altogether from the cost tables shall be assumed to be omitted from the bid and, provided that the bid is substantially responsive, an adjustment to the bid price will be made during bid evaluation in accordance with ITB 30.3.

17.5 The prices for Goods components of the Information System are to be expressed and shall be defined and governed in accordance with the rules prescribed in the edition of Incoterms **specified in the BDS,** as follows:

(a) Goods supplied from outside the Purchaser's country:

Unless otherwise specified in the BDS, the prices shall be quoted on a CIP (named place of destination) basis, exclusive of all taxes, stamps, duties, levies, and fees imposed in the Purchaser's country. The named place of destination and special instructions for the contract of carriage are as specified in the SCC for GCC 1.1 (e) (iii)**.**

In quoting the price, the Bidder shall be free to use transportation through carriers registered in any eligible countries. Similarly, the Bidder may obtain insurance services from any eligible source country;

(b) Locally supplied Goods:

Unit prices of Goods offered from within the Purchaser's Country, shall be quoted on an EXW (ex factory, ex works, ex warehouse or off-the-shelf, as applicable) basis, including all customs duties, levies, fees, GST and other taxes incurred until delivery of the Goods, but excluding all GST and other taxes and duties/fees incurred for the Goods at the time of invoicing or sales transaction, if the Contract is awarded;

(c) Inland transportation.

17.6 **Unless otherwise stated in the BDS**, inland transportation, insurance and related local costs incidental to the delivery of the Goods to the designated Project Sites must be quoted separately as a Service item in accordance with ITB 17.5, whether the Goods are to be supplied locally or from outside the Purchaser's country, except when these costs are already included in the price of the Goods, as is, e.g., the case, when ITB 17.5 (a) specifies CIP, and the named places of destination are the Project Sites.

17.7 The price of Services shall be separated into their local and foreign currency components and where appropriate, broken down into unit prices. Prices must include all taxes, duties, levies and fees whatsoever, except only GST or other indirect taxes, or stamp duties, that may be assessed and/or apply in the Purchaser's country on/to the price of the Services invoiced to the Purchaser, if the Contract is awarded.

17.8 **Unless otherwise specified in the BDS,** the prices must include all costs incidental to the performance of the Services, as incurred by the Supplier, such as travel, subsistence, office support, communications, translation, printing of materials, etc. Costs incidental to the delivery of the Services but incurred by the Purchaser or its staff, or by third parties, must be included in the price only to the extent such obligations are made explicit in these bidding documents (as, e.g., a requirement for the Bidder to include the travel and subsistence costs of trainees).

17.9 **Unless otherwise specified in the BDS,** prices quoted by the Bidder shall be fixed during the Bidder's performance of the Contract and not subject to increases on any account. Bids submitted that are subject to price adjustment will be rejected.

18. Currencies of Bid and Payment

18.1 The currency(ies) of the Bid and currencies of payment shall be the same. The Bidder shall quote in the currency of the Purchaser's Country the portion of the Bid price that corresponds to expenditures incurred in the currency of the Purchaser's Country, unless otherwise specified **in the BDS**.

18.2 The Bidder may express the Bid price in any currency. If the Bidder wishes to be paid in a combination of amounts in different currencies, it may quote its price accordingly but shall use no more than three foreign currencies in addition to the currency of the Purchaser's Country.

19. Period of Validity of Bids

19.1 Bids shall remain valid for the period specified **in the BDS** after the Bid submission deadline date prescribed by the Purchaser in accordance with ITB 23.1. A Bid valid for a shorter period shall be rejected by the Purchaser as nonresponsive.

19.2 In exceptional circumstances, prior to the expiration of the Bid validity period, the Purchaser may request Bidders to extend the period of validity of their Bids. The request and the responses shall be made in writing. If a Bid Security is requested in accordance with ITB 20.1, it shall also be extended for forty-five days (45) beyond the deadline of the extended validity period. A Bidder may refuse the request without forfeiting its Bid Security. A Bidder granting the request shall not be required or permitted to modify its Bid, except as provided in ITB 19.3.

19.3 If the award is delayed by a period exceeding fifty-six (56) days beyond the expiry of the initial Bid validity, the Contract price shall be determined as follows:

(a) in case of fixed price contracts, the contract price shall be the Bid price adjusted by a factor or factors specified **in the BDS**;

(b) in the case of an adjustable price contracts, no adjustments shall be made;

(c) in any case, Bid evaluation shall be based on the Bid Price without taking into consideration the applicable correction from those indicated above.

20. Bid Security

20.1 The Bidder shall furnish as part of its Bid, either a Bid-Securing Declaration or a Bid Security as specified **in the BDS**, in original form and, in the case of a Bid Security, in the amount and currency specified **in the BDS**.

20.2 A Bid-Securing Declaration shall use the form included in Section IV, Bidding Forms.

20.3 If a Bid Security is specified pursuant to ITB 20.1, the bid security shall be a demand guarantee in any of the following forms at the Bidder's option:

(a) an unconditional guarantee issued by a non-bank financial institution (such as an insurance, bonding or surety company);

(b) an irrevocable letter of credit;

(c) a cashier's or certified check; or demand draft or

(d) another security indicated **in the BDS,**

from a reputable source from an eligible country. If an unconditional guarantee is issued by a non-bank financial institution located outside the Purchaser's Country the issuing non-bank financial institution shall have a correspondent financial institution located in the Purchaser's Country to make it enforceable unless the Purchaser has agreed in writing, prior to Bid submission, that a correspondent financial institution is not required.

20.4 In the case of a bank guarantee, the Bid Security shall be submitted either using the Bid Security Form included in Section IV, Bidding Forms or in another substantially similar format approved by the Purchaser prior to Bid submission. In either case, the form must include the complete name of the Bidder. The Bid Security shall be valid for forty-five days (45) beyond the original validity period of the Bid, or beyond any period of extension if requested under ITB 19.2.

20.5 If a Bid Security or a Bid-Securing Declaration is specified pursuant to ITB 20.1, any Bid not accompanied by a substantially responsive Bid Security or Bid-Securing Declaration shall be rejected by the Purchaser as non-responsive.

20.6 If a Bid Security is specified pursuant to ITB 20.1, the Bid Security of unsuccessful Bidders shall be returned as promptly as possible upon the successful Bidder's furnishing of the Performance Security pursuant to ITB 51.

20.7 The Bid Security of the successful Bidder shall be returned as promptly as possible once the successful Bidder has signed the Contract and furnished the required Performance Security.

20.8 The Bid Security may be forfeited or the Bid-Securing Declaration executed:

(a) if a Bidder withdraws its Bid during the period of Bid validity specified by the Bidder on the Letter of Bid – Technical Part and repeated in the Letter of Bid - Financial Part, or any extension thereto provided by the Bidder.; or

(b) if the successful Bidder fails to**:**

(i) sign the Contract in accordance with ITB50; or

(ii) furnish a performance security in accordance with ITB51.

20.9 The Bid Security or the Bid-Securing Declaration of a JV shall be in the name of the JV that submits the bid. If the JV has not been legally constituted into a legally enforceable JV at the time of Bidding, the Bid Security or the Bid-Securing Declaration shall be in the names of all future members as named in the letter of intent referred to in ITB 4.1 and ITB 11.5.

20.10 If a Bid Security is not required **in the BDS**, and;

(a) if a Bidder withdraws its Bid during the period of Bid validity specified by the Bidder on the Letters of Bid Form, except as provided in ITB 19.2; or

(b) if the successful Bidder fails to: sign the Contract in accordance with ITB50; or furnish a Performance Security in accordance with ITB51;

the Purchaser may, if provided for **in the BDS**, declare the Bidder disqualified to be awarded a contract by the Purchaser for a period of time as stated **in the BDS**.

21. Format and Signing of Bid

21.1 The Bidder shall prepare the Bid as per details given in ITB 11 and ITB 22.

21.2 Bidders shall mark as "CONFIDENTIAL" information in their Bids which is confidential to their business. This may include proprietary information, trade secrets, or commercial or financially sensitive information.

21.3 The bid shall be signed by a person duly authorized to sign on behalf of the Bidder. The authorization shall consist of a written confirmation **as specified in the BDS** and shall be uploaded along with the bid.

21.4 In case the Bidder is a JV, the Bid shall be signed by an authorized representative of the JV on behalf of the JV, and so as to be legally binding on all the members as evidenced by a power of attorney signed by their legally authorized representatives. Documents establishing authority to sign the bid on behalf of the JV shall be uploaded along with the bid.

21.5 Corrections if any in the bid can be carried out by editing the information before electronic submission on e-procurement portal.

D. Online Submission and Opening of Bids

22. Online Submission of Bids

22.1 Bids, both Technical and Financial Parts, shall be submitted online on the e-procurement system specified in BDS 7.1. Detailed guidelines for viewing bids and submission of online bids are given on the website. The Request for Bids under this Project is published on this website. Any citizen or prospective bidder can logon to this website and view the Request for Bids and can view the details of goods for which bids are invited. A prospective bidder can submit its bid online; however, the bidder is required to have enrolment/registration in the website, and should have valid Digital Signature Certificate (DSC) in the form of smart card/e-token obtained from any authorised certifying agency of Government of India (for class of DSC **specified in BDS**). The bidder should register in the website using the relevant option available. Then the Digital Signature registration has to be done with the e-token, after logging into the website. The bidder can then login the website through the secured login by entering the password of the e-token & the user id/ password chosen during registration. After getting the bid schedules, the Bidder should go through them carefully and submit the specified documents, along with the bid, otherwise the bid will be rejected.

22.2 The completed bid comprising of documents indicated in ITB 12, should be uploaded on the e-procurement portal along with scanned copies of requisite certificates as are mentioned in different sections in the bidding document and scanned copy of the bid security or bid securing declaration as the case may be.

22.3 All the documents are required to be signed digitally by the bidder. After electronic online bid submission, the system generates a unique bid identification number which is time stamped as per server time. This shall be treated as acknowledgement of bid submission.

22.4 Physical, E-mail, Telex, Cable, or Facsimile bids will be rejected as non-responsive

23. Deadline for Submission of Bids

23.1 Bids must be uploaded online no later than the date and time **specified in the BDS.**

23.2 The Purchaser may, at its discretion, extend the deadline for the submission of bids by amending the bidding document in accordance with ITB 8, in which case all rights and obligations of the Purchaser and Bidders previously subject to the deadline shall thereafter be subject to the deadline as extended.

24.Late Bids

24.1 The electronic bidding system would not allow any late submission of bids after due date & time as per server time.

25. Withdrawal, Substitution, and Modification of Bids

25.1 A Bidder may modify its bid by using appropriate option for bid modification on the e-procurement portal, before the deadline for submission of bids. For this the bidder need not make any additional payment towards the cost of bid document. For bid modification and consequential re-submission, the bidder is not required to withdraw the bid submitted earlier. The last modified bid submitted by the bidder within the bid submission time shall be considered as the bid. For this purpose, modification/withdrawal by other means will not be accepted. In online system of bid submission, the modification and consequential re-submission of bids is allowed any number of times. A bidder may withdraw its bid by using appropriate option for bid withdrawal, before the deadline for submission of bids, however, if the bid is withdrawn, re-submission of the bid is not allowed (or allowed if **specified in BDS**).

25.2 Bids requested to be withdrawn in accordance with ITB Sub-Clause 25.1 shall not be opened.

25.3 No bid may be withdrawn, substituted, or modified in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the Letter of Bid – Technical Part and repeated in the Letter of Bid - Financial Part, or any extension thereof.

E. Public Opening of Technical Parts of Bids

26. Public Opening of Technical Parts of Bids

26.1 The Purchaser shall publicly open Technical Parts of all bids received by the deadline at the date, time and place **specified in the BDS** in the presence of Bidders' designated representatives and anyone who chooses to attend, and this could also be viewed by the bidders online. The Financial Parts of the bids shall remain unopened in the e-procurement system, until the subsequent public opening, following the evaluation of the Technical Parts of the Bids. In all cases, original documents submitted as specified in ITB 12.3 shall be first scrutinized, and Bids that do not comply with the provisions of ITB 12.3 will be declared non-responsive and will not be opened. The bidder's names and such other details as the Purchaser may consider appropriate, will be notified online at the time of bid opening of the Technical Part of the bids.

In the event of the specified date of the bid opening being declared a holiday for the Purchaser, the bids shall be opened at the same time and venue on the next working day

26.2 The electronic summary of the bid opening will be generated and uploaded online. The Purchaser will also prepare minutes of the Bid opening, including the information disclosed such as (a) the name of the Bidder; (b) presence or absence of a Bid Security or Bid-Securing Declaration; and (c) if applicable, any Alternative Bid - Technical Part, and upload the same for viewing online.

26.3 Only Technical Parts of Bids, and Alternative Bids – Technical Parts if permitted in ITB 13, that are opened at Bid opening shall be considered further for evaluation.

F. Evaluation of Bids – General Provisions

27. Confidentiality

27.1 Information relating to the evaluation of Bids and recommendation of contract award, shall not be disclosed to Bidders or any other persons not officially concerned with the Bidding process until the Notification of Intention to Award the Contract is transmitted to all Bidders in accordance with ITB 45.

27.2 Any effort by a Bidder to influence the Purchaser in the evaluation of the Bids or Contract award decisions may result in the rejection of its Bid.

27.3 Notwithstanding ITB 27.2, from the time of Bid opening to the time of Contract award, if any Bidder wishes to contact the Purchaser on any matter related to the Bidding process, it should do so in writing.

28. Clarification of Bids

28.1 To assist in the examination, evaluation, and comparison of the Bids, and qualification of the Bidders, the Purchaser may, at its discretion, ask any Bidder for a clarification of its Bid. Any clarification submitted by a Bidder that is not in response to a request by the Purchaser shall not be considered. The Purchaser's request for clarification and the response shall be in writing. No change in the prices or substance of the Bid shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the Purchaser in the evaluation of the Bids, in accordance with ITB36.

28.2 If a Bidder does not provide clarifications of its Bid by the date and time set in the Purchaser's request for clarification, its Bid may be rejected.

29. Deviations, Reservations, and Omissions

29.1 During the evaluation of Bids, the following definitions apply:

(a) "Deviation" is a departure from the requirements specified in the bidding document;

(b) "Reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the bidding document; and

(c) "Omission" is the failure to submit part or all of the information or documentation required in the bidding document.

30. Nonmaterial Nonconformities

30.1 Provided that a Bid is substantially responsive, the Purchaser may waive any nonconformity in the Bid that does not constitute a material deviation, reservation or omission.

30.2 Provided that a Bid is substantially responsive, the Purchaser may request that the Bidder submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities in the Bid related to documentation requirements. Requesting information or documentation on such nonconformities shall not be related to any aspect of the price of the Bid. Failure of the Bidder to comply with the request may result in the rejection of its Bid.

30.3 Provided that a Bid is substantially responsive, the Purchaser shall rectify quantifiable nonmaterial nonconformities related to the Bid Price. To this effect, the Bid Price shall be adjusted, for comparison purposes only, to reflect the price of a missing or non-conforming item or component in the manner specified **in the BDS**.

G. Evaluation of Technical Parts of Bids

31. Evaluation of Technical Parts

31.1 In evaluating the Technical Parts of each Bid, the Purchaser shall use the criteria and methodologies listed in ITB 32, ITB 33, and Section III, Evaluation and Qualification Criteria. No other evaluation criteria or methodologies shall be permitted.

32. Determination of Responsiveness

32.1 The Purchaser's determination of a Bid's responsiveness is to be based on the contents of the Bid itself, as defined in ITB 11.

32.2 A substantially responsive Bid is one that meets the requirements of the bidding document without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that;

(a) if accepted, would:

(i) affect in any substantial way the scope, quality, or performance of the Information System specified in the Contract; or

(ii) limit in any substantial way, inconsistent with the bidding document, the Purchaser's rights or the Bidder's obligations under the proposed Contract; or

(iii) if rectified, would unfairly affect the competitive position of other Bidders presenting substantially responsive Bids.

32.3. The Purchaser shall examine the technical aspects of the Bid in particular, to confirm that all requirements of Section VII, Purchaser's Requirements have been met without any material deviation, reservation, or omission.

32.4 To be considered for Contract award, Bidders must have submitted Bids:

(a) for which detailed Bid evaluation using the same standards for compliance determination as listed in ITB 29 and ITB 35.6 confirms that the Bids are commercially and technically responsive, and include the hardware, Software, related equipment, products, Materials, and other Goods and Services components of the Information System in substantially the full required quantities for the entire Information System or, if allowed in the BDS ITB 35.6, the individual Subsystem, lot or slice Bid on; and are deemed by the Purchaser as commercially and technically responsive; and

(b) that offer Information Technologies that are proven to perform up to the standards promised in the bid by having successfully passed the performance, benchmark, and/or functionality tests the Purchaser may require, pursuant to ITB 42.3.

33. Evaluation and Qualification of the

33.1 The Purchaser shall determine, to its satisfaction, whether the eligible Bidders, whose Bids – Technical Parts have been

Bidders determined to be substantially responsive to the bidding document, meet the Qualification Criteria specified in Section III, Evaluation and Qualification Criteria. No other evaluation criteria or methodologies shall be permitted.

Preliminary Examination

33.2 The Purchaser will examine the bids, to determine whether they have been properly signed, whether required sureties have been furnished, and are substantially complete (e.g., not missing key parts of the bid or silent on excessively large portions of the Technical Requirements).

Technical Evaluation

33.3 The Purchaser will examine the information supplied by the Bidders Pursuant to ITB 11 and ITB 16, and in response to other requirements in the Bidding document, taking into account the following factors:

(a) overall completeness and compliance with the Technical Requirements; and deviations from the Technical Requirements;

(b) suitability of the Information System offered in relation to the conditions prevailing at the site; and the suitability of the implementation and other services proposed, as described in the Preliminary Project Plan included in the bid;

(c) achievement of specified performance criteria by the Information System;

(d) compliance with the time schedule called for by the Implementation Schedule and any alternative time schedules offered by Bidders, as evidenced by a milestone schedule provided in the Preliminary Project Plan included in the bid;

(e) type, quantity, quality, and long-term availability of maintenance services and of any critical consumable items necessary for the operation of the Information System;

(f) any other relevant technical factors that the Purchaser deems necessary or prudent to take into consideration;

(g) any proposed deviations in the bid to the contractual and technical provisions stipulated in the bidding documents.

33.4 The determination shall not take into consideration the qualifications of other firms such as the Bidder's subsidiaries, parent entities, affiliates, subcontractors (other than

manufacturers and subcontractors proposed by the Bidder for major items of supply or services listed by the purchaser in the bidding document, and evaluated for their acceptability), or any other firm(s) different from the Bidder.

33.5 If a Bidder does not meet the qualifying criteria specified in Section III, Evaluation and Qualification Criteria, its Bid shall be rejected by the Purchaser and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.

33.6 Only Bids that are both substantially responsive to the bidding document, and meet all Qualification Criteria (Technical Part) shall have the Financial Parts of their Bids opened at the second public opening.

H. Public Opening of Financial Parts of Bids

34. Public Opening of Financial Parts

34.1 Following the completion of the evaluation of the Technical Parts of the Bids, and the Bank has issued its no objection (if applicable), the Purchaser shall notify in writing those Bidders who have failed to meet the Qualification Criteria and/or whose Bids were considered non-responsive to the requirements in the bidding document, advising them of the following information:

(a) The grounds on which their Technical Part of Bid failed to meet the requirements of the bidding document;

(b) their Financial Part of the Bid shall not be opened; and

(c) notify them of the date and time for public opening of the Financial Parts of the Bids. Financial Parts of the bids shall not be opened earlier than seven (7) days from the communication of technical evaluation results to the bidders.

34.2 The Purchaser shall, simultaneously, notify in writing those Bidders whose Technical Parts have been evaluated as substantially responsive to the bidding document and met the Qualification Criteria, advising them of the following information:

(a) their Bid has been evaluated as substantially responsive to the bidding document and met the Qualification Criteria;

(b) their Financial Part of Bid will be opened at the public opening of Financial Parts;

(c) notify them of the date, time and location of the public opening of the Financial Parts of the Bids, as **specified in the BDS**.

34.3 The opening date should allow Bidders sufficient time to make arrangements for attending the opening. The Financial Part of the Bid shall be opened publicly in the presence of Bidders' designated representatives and anyone who chooses to attend, and this could also be viewed by the bidders online. The bidder's names, the Bid prices per lot (contract) if applicable, the total amount of each bid, including any discounts and Alternative Bid – Financial Part, and such other details as the Purchaser may consider appropriate will be notified online by the Purchaser at the time of bid opening.

34.4 The electronic summary of the bid opening will be generated and uploaded online. The Purchaser will also prepare minutes of the Bid opening, including the information disclosed and upload the same for viewing online. Only Financial Part of Bids, Financial Parts of Alternative Bids and discounts that are opened and read out at Bid opening shall be considered further for evaluation.

I. Evaluation of Financial Parts of Bids

35. Evaluation of Financial Parts

35.1 The Purchaser shall use the criteria and methodologies listed in this ITB and Section III, Evaluation and Qualification criteria. No other evaluation criteria or methodologies shall be permitted. By applying the criteria and methodologies the Purchaser shall determine the Most Advantageous Bid.

35.2 If **specified in the BDS**, the Purchaser's evaluation of responsive Bids will take into account technical factors, in addition to cost factors. An Evaluated Bid Score (B) will be calculated for each responsive Bid using the formula, specified in Section III, Evaluation and Qualification Criteria, which permits a comprehensive assessment of the Bid cost and the technical merits of each Bid.

35.3 Where alternative technical solutions have been allowed in accordance with ITB 13, and offered by the Bidder, the Purchaser will make a similar evaluation of the alternatives. Where alternatives have not been allowed but have been offered, they shall be ignored.

35.4 To evaluate a Bid, the Purchaser shall consider the following:

(a) the Bid price, excluding provisional sums and the provision, if any, for contingencies in the Price Schedules;

(b) price adjustment for correction of arithmetic errors in accordance with ITB 36.1;

(c) price adjustment due to discounts offered in accordance

with ITB 34.3;

(d) converting the amount resulting from applying (a) to (c) above, if relevant, to a single currency in accordance with ITB 37; and

(e) price adjustment due to quantifiable nonmaterial nonconformities in accordance with ITB 30.3; and

(f) the evaluation factors indicated in Section III, Evaluation and Qualification Criteria.

35.5 If price adjustment is allowed in accordance with ITB 17.9, the estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be taken into account in Bid evaluation.

35.6 The Purchaser will evaluate and compare the Bids that have been determined to be substantially responsive, pursuant to ITB 32. The evaluation will be performed assuming either that:

(a) the Contract will be awarded to the Most Advantageous Bid for the entire Information System; or

(b) if specified **in the BDS**, Contracts will be awarded to the Bidders for each individual Subsystem, lot, or slice defined in the Technical Requirements whose Bids result in the Most Advantageous Bid/Bids for the entire System.

(c) In the latter case, discounts that are conditional on the award of more than one Subsystem, lot, or slice may be offered in Bids. Such discounts will be considered in the evaluation of bids as specified in the BDS.

36. Correction of Arithmetical Errors

36.1 The e-procurement system automatically calculates the total amount from unit rates and quantities, and the system also automatically populates the amount in words from the amount in figures, and therefore there is no scope of discrepancy and need for arithmetic correction.

37. Conversion to Single Currency

37.1 For evaluation and comparison purposes, the currency(ies) of the Bid shall be converted into a single currency as specified **in the BDS**.

38. Margin of Preference

38.1 No margin of domestic preference shall apply.

39. Comparison of Bids

39.1 The Purchaser shall compare all substantially responsive Bids in accordance with ITB 35.4 to determine the lowest evaluated cost.

40. Abnormally Low

40.1 An Abnormally Low Bid is one where the Bid price in

Bids

combination with other constituent elements of the Bid appears unreasonably low to the extent that the Bid price raises material concerns as to the capability of the Bidder to perform the Contract for the offered Bid Price.

40.2 In the event of identification of a potentially Abnormally Low Bid, the Purchaser shall seek written clarifications from the Bidder, including detailed price analyses of its Bid price in relation to the subject matter of the contract, scope, proposed methodology, schedule, allocation of risks and responsibilities and any other requirements of the bidding document.

40.3 After evaluation of the price analyses, in the event that the Purchaser determines that the Bidder has failed to demonstrate its capability to perform the Contract for the offered Bid Price, the Purchaser shall reject the Bid.

41. Unbalanced or Front Loaded Bids

41.1 If the Bid that is evaluated as the lowest evaluated cost is, in the Purchaser's opinion, seriously unbalanced or front loaded the Purchaser may require the Bidder to provide written clarifications. Clarifications may include detailed price analyses to demonstrate the consistency of the Bid prices with the scope of information systems, installations, proposed methodology, schedule and any other requirements of the bidding document.

41.2 After the evaluation of the information and detailed price analyses presented by the Bidder, the Purchaser may:

(a) accept the Bid without any additional Performance Security; or

(b) if appropriate, require that the total amount of the Performance Security be increased, at the expense of the Bidder, to a level not exceeding twenty percent (20%) of the Contract Price; or

(c) reject the Bid, if the risk cannot be mitigated through additional performance security.

42. Eligibility and Qualification of the Bidder

42.1 The Purchaser shall determine to its satisfaction whether the Bidder that is selected as having submitted the lowest evaluated and substantially responsive Bid is eligible and meets the qualifying criteria specified in Section III, Evaluation and Qualification Criteria.

42.2 The determination shall be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB 15.

42.3 **Unless otherwise specified in the BDS,** the Purchaser will NOT carry out tests at the time of post-qualification, to determine that the performance or functionality of the

Information System offered meets those stated in the Technical Requirements. However, if **so specified in the BDS** the Purchaser may carry out such tests **as detailed in the BDS**.

42.4 An affirmative determination shall be a prerequisite for award of the Contract to the Bidder. A negative determination shall result in disqualification of the Bid, in which event the Purchaser shall proceed to the next lowest evaluated cost or best evaluated Bid, as the case may be, to make a similar determination of that Bidder's qualifications to perform satisfactorily.

42.5 The capabilities of the manufacturers and subcontractors proposed by the Bidder that is determined to have offered the Most Advantageous Bid for identified major items of supply or services will also be evaluated for acceptability in accordance with Section III, Evaluation and Qualification Criteria. Their participation should be confirmed with a letter of intent between the parties, as needed. Should a manufacturer or subcontractor be determined to be unacceptable, the Bid will not be rejected, but the Bidder will be required to substitute an acceptable manufacturer or subcontractor without any change to the Bid price. Prior to signing the Contract, the corresponding Appendix to the Contract Agreement shall be completed, listing the approved manufacturers or subcontractors for each item concerned.

43. Purchaser's Right to Accept Any Bid, and to Reject Any or All Bids

43.1 The Purchaser reserves the right to accept or reject any Bid, and to annul the Bidding process and reject all Bids at any time prior to contract award, without thereby incurring any liability to Bidders. In case of annulment, all documents submitted and specifically, Bid securities, shall be promptly returned to the Bidders.

44. Standstill Period

44.1 The Contract shall not be awarded earlier than the expiry of the Standstill Period. The Standstill Period shall be ten (10) Business Days unless extended in accordance with ITB 49. The Standstill Period commences the day after the date the Purchaser has transmitted to each Bidder the Notification of Intention to Award the Contract. Where only one Bid is submitted, or if this contract is in response to an emergency situation recognized by the Bank, the Standstill Period shall not apply.

45. Notification of Intention to Award

45.1 The Purchaser shall send to each Bidder the Notification of Intention to Award the Contract to the successful Bidder. The Notification of Intention to Award shall contain, at a minimum, the following information:

(a) the name and address of the Bidder submitting the successful Bid;

(b) the Contract price of the successful Bid;

(c) the total combined score of the successful Bid;

(d) the names of all Bidders who submitted Bids, and their Bid prices as readout and as evaluated prices and technical scores (if applicable);

(e) a statement of the reason(s) the Bid (of the unsuccessful Bidder to whom the notification is addressed) was unsuccessful.

(f) the expiry date of the Standstill Period; and

(g) instructions on how to request a debriefing or submit a complaint during the standstill period.

J. Award of Contract

46. Award Criteria

46.1 Subject to ITB 43, the Purchaser shall award the Contract to the successful Bidder. This is the Bidder whose Bid has been determined to be the Most Advantageous Bid. The determination of the Most Advantageous Bid will be made in accordance to one of the two options as defined i**n the BDS**. The methodology options are:

(a) when **rated criteria are used**: The Bidder that meets the qualification criteria and whose Bid:

(i) is substantially responsive; and

(ii) is the best evaluated Bid (i.e. the Bid with the highest combined technical/quality/price score); or

(b) when **rated criteria are not used**: The Bidder that meets the qualification criteria and whose Bid has been determined to be:

(i) substantially responsive to the bidding document; and

(ii) the lowest evaluated cost.

47. Purchaser's Right to Vary Quantities at Time of Award

47.1 The Purchaser reserves the right at the time of Contract award to increase or decrease, by the percentage(s) for items as indicated **in the BDS.**

48. Notification of Award

48.1 Prior to the expiration of the Bid Validity Period and upon expiry of the Standstill Period, specified in ITB 44.1 or any extension thereof, and, upon satisfactorily addressing any complaint that has been filed within the Standstill Period, the Purchaser shall notify the successful Bidder, in writing, that its Bid has been accepted. The notification letter (hereinafter and in the Contract, Forms called the "Letter of Acceptance") shall specify the sum that the Purchaser will pay the Supplier in consideration of the execution of the Contract (hereinafter and in the Conditions of Contract and Contract Forms called "the Contract Price").

48.2 Within ten (10) Business days after the date of transmission of the Letter of Acceptance, the Purchaser shall publish the Contract Award Notice which shall contain, at a minimum, the following information:

a. name and address of the Purchaser;

b. name and reference number of the contract being awarded, and the selection method used;

c. names of all Bidders that submitted Bids, and their Bid prices as read out at Bid opening, and as evaluated;

d. name of Bidders whose Bids were rejected and the reasons for their rejection;

e. the name of the successful Bidder, the final total contract price, the contract duration and a summary of its scope; and

f. successful Bidder's Beneficial Ownership Disclosure Form, if specified in BDS ITB 50.1.

48.3 The Contract Award Notice shall be published on the e-portal or on a National website (GoHP website https://hptenders.gov.in/) or on the Purchaser's website with free access if available, or in at least one newspaper of national circulation in the Purchaser's Country, or in the official gazette. The Purchaser shall also publish the Contract Award Notice in UNDB online.

48.4 Until a formal contract is prepared and executed, the Notification of Award shall constitute a binding Contract.

49. Debriefing by the Purchaser

49.1 On receipt of the Purchaser's Notification of Intention to Award referred to in ITB 45, an unsuccessful Bidder has three (3) Business Days to make a written request to the Purchaser for a debriefing. The Purchaser shall provide a debriefing to all unsuccessful Bidders whose request is received within this deadline.

49.2 Where a request for debriefing is received within the deadline, the Purchaser shall provide a debriefing within five (5) Business Days, unless the Purchaser decides, for justifiable reasons, to provide the debriefing outside this timeframe. In that case, the standstill period shall automatically be extended until five (5) Business Days after such debriefing is provided. If more than one debriefing is so delayed, the standstill period shall not end earlier than five (5) Business Days after the last debriefing takes place. The Purchaser shall promptly inform, by the quickest means available, all Bidders of the extended standstill period.

49.3 Where a request for debriefing is received by the Purchaser later than the three (3)-Business Day deadline, the Purchaser should provide the debriefing as soon as practicable, and normally no later than fifteen (15) Business Days from the date of publication of Public Notice of Award of contract. Requests for debriefing received outside the three (3)-day deadline shall not lead to extension of the standstill period.

49.4 Debriefings of unsuccessful Bidders may be done in writing or verbally. The Bidder shall bear their own costs of attending such a debriefing meeting.

50. Signing of Contract

50.1 The Purchaser shall send to the successful Bidder the Letter of Acceptance including the Contract Agreement, and, if specified **in the BDS**, a request to submit the Beneficial Ownership Disclosure Form providing additional information on its beneficial ownership. The Beneficial Ownership Disclosure Form, if so requested, shall be submitted within eight (8) Business Days of receiving this request.

50.2 The successful Bidder shall sign, date and return to the Purchaser, the Contract Agreement within twenty-eight (28) days of its receipt alongwith (a) the performance security in accordance with ITB Clause 51; and (b) if the successful bidder is a JV, the JV agreement duly signed by all the members, if it had submitted only a letter of intent to execute the JV agreement.

50.3 Notwithstanding ITB 50.2 above, in case signing of the

Contract Agreement is prevented by any export restrictions attributable to the Purchaser, to the country of the Purchaser, or to the use of the Information System to be supplied, where such export restrictions arise from trade regulations from a country supplying those Information System, the Bidder shall not be bound by its Bid, always provided, however, that the Bidder can demonstrate to the satisfaction of the Purchaser and of the Bank that signing of the Contract Agreement has not been prevented by any lack of diligence on the part of the Bidder in completing any formalities, including applying for permits, authorizations and licenses necessary for the export of the Information System under the terms of the Contract.

51. Performance Security

51.1 Within twenty-eight (28) days of the receipt of the Letter of Acceptance from the Purchaser, the successful Bidder shall furnish the performance security in accordance with the General Conditions, subject to ITB 41.2 (b), using for that purpose the Performance Security Form included in Section X, Contract Forms, or another form acceptable to the Purchaser. A foreign institution providing a Performance Security shall have a correspondent financial institution located in the Purchaser's Country. The performance security of a Joint Venture shall be in the name of the Joint Venture specifying the names of all members.

51.2 Failure of the successful Bidder to submit the above-mentioned Performance Security or sign the Contract shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid Security. In that event the Purchaser may award the Contract to the Bidder offering the next Most Advantageous Bid.

52. Adjudicator

52.1 Unless **the BDS** states otherwise, the Purchaser proposes that the person named **in the BDS** be appointed as Adjudicator under the Contract to assume the role of informal Contract dispute mediator, as described in GCC Clause 43.1. In this case, a résumé of the named person is attached to the BDS. The proposed hourly fee for the Adjudicator is specified **in the BDS**. The expenses that would be considered reimbursable to the Adjudicator are also specified **in the BDS**. If a Bidder does not accept the Adjudicator proposed by the Purchaser, it should state its non-acceptance in its Bid Form and make a counterproposal of an Adjudicator and an hourly fee, attaching a résumé of the alternative. If the successful Bidder and the Adjudicator nominated **in the BDS** happen to be from the same country, and this is not the country of the Purchaser too, the Purchaser reserves the right to cancel the Adjudicator nominated **in the BDS** and propose a new one. If by the

day the Contract is signed, the Purchaser and the successful Bidder have not agreed on the appointment of the Adjudicator, the Adjudicator shall be appointed, at the request of either party, by the Appointing Authority specified in the SCC clause relating to GCC Clause 43.1.4, or if no Appointing Authority is specified there, the Contract will be implemented without an Adjudicator.

53. Procurement Related Complaint

53.1 The procedures for making a Procurement-related Complaint are as specified **in the BDS**.

SECTION II - BID DATA SHEET (BDS)

The following specific data for the Information System to be procured shall complement, supplement, or amend the provisions in the Instructions to Bidders (ITB). Whenever there is a conflict, the provisions herein shall prevail over those in ITB

[Instructions for completing the Bid Data Sheet are provided, as needed, in the notes in italics mentioned for the relevant ITB]

ITB Reference	A. General
ITB 1.1	The reference number of the Request for Bids is: **IN-HPRIDC - 436711-GO-RFB** The Purchaser is: Director (Projects), HPRIDCL, India. The name of the RFB is: Design, supply, installation, testing and commissioning of the Integrated Road Safety Enforcement System (IRSES) and its Operation, Maintenance, and Management for 5 years. The number and identification of lots (contracts) comprising this RFB is: **Not Applicable**
ITB 1.3 (a)	The Purchaser shall use the electronic-procurement system specified in BDS 7.1 to manage this Bidding process.
ITB 2.1	The Borrower is: Government of India Loan or Financing Agreement amount: **US$ 82 Millions** The name of the Project is: Himachal Pradesh State Roads Transformation Project (HPSRTP)
ITB 4.1	Maximum number of members in the JV shall be: ***Three***
ITB 4.5	A list of debarred firms and individuals is available on the Bank's external website: http://www.worldbank.org/debarr.
ITB 4.11	Deleted.
B. Bidding Document	
ITB 7.1	**Electronic – Procurement System** The Purchaser shall use the following electronic-procurement system to manage this Bidding process: https://hptenders.gov.in/ Requests for clarification should be received by the Purchaser no later than: ***14 days*** prior to the deadline for submission of Bids in accordance with ITB

<table>
<tr><td></td><td>23 through email.</td></tr>
<tr><td>ITB 7.4</td><td>A Pre-Bid meeting shall take place at the following date, time and place:
Date: 17.02.2025
Time: 11:00 hours. (IST)
Place: O/o Director (Projects), HPRIDCL,
Nirman Bhawan, Nigam Vihar,
Shimla-171002 Himachal Pradesh (India).
E-mail: pdsrp-hp@nic.in
Contact person/conference coordinator: Executive Engineer (Contract Management), HPRIDCL, Nirman Bhawan, Shimla
Telephone: 0177-2628696

The queries for Pre-bid meeting should necessarily be submitted in the following format in excel sheet only:
<table>
<tr><td>Sl. No.</td><td>Bidding Document Reference(s) (Section No. & Page No.</td><td>Content of Bidding Document requiring Clarification(s)</td><td>Points clarification</td></tr>
<tr><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td></tr>
</table>
A site visit conducted by the Purchaser shall not be organized.</td></tr>
<tr><td>ITB 8.1</td><td>The addendum will appear on the e-procurement portal. There will not be any automatic email notification sent to the bidders. The bidder shall submit the bid duly considering the addendum published by the Purchaser on the e-procurement portal.</td></tr>
<tr><td colspan="2">C. Preparation of Bids</td></tr>
<tr><td>ITB 10.1</td><td>The language of the Bid is: English
All correspondence exchange shall be in English language.
Language for translation of supporting documents and printed literature is English.</td></tr>
<tr><td>ITB 11.2 (j)</td><td>The Bidder shall submit the following additional documents in its Bid:
The Bidder shall submit with its Bid the following additional documents:
I. Manufacturer authorization letter for bidder which clearly mentioned the RFB number, Product, and year of support. (in the prescribed format).
II. Product datasheets and user manual
III. OEM Service contract manual and escalation matrix.</td></tr>
</table>

	IV. Bidder Service SLA and escalation matrix for operation phase V. Unpriced BoQ with brand and part number of quoted items VI. Declaration of Land border clause as per the Govt of India guidelines VII. OEM Pre-Qualification documents VIII. Subcontractor Agreements: if required, in the prescribed format. IX. *[Note: manufacturer's authorization for major items of supply, and complex and critical technologies should always be required.]*
ITB 11.3 (d)	**The Bidder shall enter the Contract Price inclusive of GST in the online Financial Bid template provided on the e-procurement portal.** All the supporting documents including the Letter of Bid – Financial Part, Price Schedule Forms, as per the format given in the Section IV – Bidding Forms need to be prepared in the Bidder firm's letter head signed by the authorized signatory of the Bid and the Bidder shall upload the scanned copies of supporting documents relevant to Financial Part on the e-procurement portal.
ITB 12	**Note for Bidders:** Bidders have to submit the bids on the e-procurement portal along with the relevant required documents. For Technical Part, the Bidder shall upload the scanned copies of relevant supporting documents on the e-procurement portal. However, the Bidders have to submit 2 copies of Full Technical Part uploaded on the e-procurement portal to the office of Director (Projects), HPRIDCL on or before the deadline for submission of Bid. For Financial Part, the Bidder shall upload the scanned copies of relevant supporting documents including the price schedule forms on the e-procurement portal. **However, the overall Contract Price inclusive of GST shall be entered only in the Financial Proposal Template provided in the GoHP's e-procurement portal.**
ITB 12.3	For submission of original documents, the Purchaser's address is: Director (Projects), HPRIDCL, Nirman Bhawan, Nigam Vihar, Shimla-171002 Himachal Pradesh (India) Telephone number +91-117-2627602 Facsimile number: +91-117-2620663, Email address: pdsrp-hp@nic.in Only the hardcopy of original payment document towards the ***cost of bid document, original bid security and original affidavit regarding correctness of information furnished with bid document*** to be furnished in the office of Purchaser on or before the deadline for submission of Bid.
ITB 13.1	Alternative Bids are not permitted.
ITB 13.2	Alternatives to the Time Schedule shall not be permitted.

ITB 13.4	Alternative technical solutions shall be permitted for the following parts of the Information System: **Not applicable**
ITB 15.2	Prequalification has not been undertaken.
ITB 16.2 (a)	In addition to the topics described in ITB Clause 16.2 (a), the Preliminary Project Plan must address the following topics as described in SECTION VII - REQUIREMENTS OF THE INFORMATION SYSTEM: (i) ***Project Organization and Management Sub-Plan, including management authorities, responsibilities, and contacts, as well as task, time and resource-bound schedules (in GANTT format);*** (ii) ***Implementation Sub-Plan;*** (iii)***Training Sub-Plan;*** (iv)***Testing and Quality Assurance Sub-Plan;*** (v) ***Warranty Defect Repair and Technical Support Service Sub-Plan*** (vi) ***Post-Warranty Service Plan.***
ITB 16.2(c)	Add at the end of ITB 16.2(c) the following: **"**Supplies for any particular item in each schedule of the bid should be from one manufacturer only for the entire quantity required. Bids from agents offering supplies from different manufacturers for the same item of the schedule in the bid other than alternative bids will be treated as non-responsive.*"*
ITB 16.3	In the interest of effective integration, cost-effective technical support, and reduced re-training and staffing costs, Bidders are required to offer specific brand names and models for the following limited number of specific items: None
ITB 16.4	**Note for Bidders:** Bidders to note that apart from other specified information and documents, bidders are also required to submit Manufacture's Authorizations (and any Subcontractor Agreements) for major items of supply or services listed by the Purchaser in Section III, Evaluation and Qualification Criteria, which the Bidder intends to purchase or subcontract.
ITB 17.2	The Bidder must bid Recurrent Cost Items
ITB 17.2 (a)	The Bidder must bid for contracts of Recurrent Cost Items not included in the main Contract.
ITB 17.5	The Incoterms edition is: Not applicable
ITB 17.5 (a)	Named place of destination is: *Not Applicable*
ITB 17.6	Named place of final destination (or Project site) is: Road Safety Enforcement Control Centre (RSECC) in Shimla with field camera systems at different locations in Shimla, Kangra and Mandi districts (Refer Section VII-

	B- Site tables).
ITB 17.7	All prices shall be quoted in INR only.
ITB 17.8	ITB 17.8 is modified as follows: ***There is no modification to ITB 17.8.***
ITB 17.9	The prices quoted by the Bidder ***shall be*** subject to adjustment during the performance of the Contract.
ITB 17.10	Add the following as sub-clause 17.10 "**17.10 Tax/duty exemptions** Bidders may like to ascertain availability of tax/duty exemption benefits available in India to the contracts financed under World Bank loan/credits. They are solely responsible for obtaining such benefits which they have considered in their bid and in case of failure to receive such benefits for reasons whatsoever, the purchaser will not compensate the bidder. Where the bidder has quoted taking into account such benefits, it must give all information required for issue of necessary Certificates in terms of Government of India's relevant notifications along with its bid as per form stipulated in Section IV. If the bidder has considered the tax/duty exemption in its bid, the bidder shall confirm and certify that the Purchaser will not be required to undertake any responsibilities of the Government of India Scheme or the said exemptions being available during the contract execution, except issuing the required certificate. The bids which do not conform to the above provisions or any condition by the bidder which makes the bid subject to availability of tax/ duty exemption or compensation on withdrawal of any variations to the said exemptions will be treated as non-responsive and liable to rejection"
ITB 18.1, 18.2	The Bidder is required to quote all price points in INR only.
ITB 19.1	The Bid validity period shall be ***120 calendar days*** from the date of bid submission deadline.
ITB 19.2	In ITB 19.2 replace the words 'twenty-eight days (28)' with 'forty-five days (45)'.
ITB 19.3 (a)	The Bid price shall be adjusted by the following factor(s): 3% per annum.
ITB 19.3 (b)	Replace Clause 19.3(b) with following: "(b) in the case of an adjustable price contracts where Price Adjustment is applicable from bid submission date, no adjustments shall be made;"
ITB 20.1	A Bid Security ***shall be*** required.

	A Bid-Securing Declaration ***shall not be*** required. The amount of Bid Security in INR shall be **INR 1,10,00,000 (Rupees One Crore Ten Lakhs).** *Bid security shall not be in the form of a Bid Bond.*
ITB 20.3 (a)	Replace the existing ITB Sub-clause 20.3 (a) with the following: an unconditional guarantee issued by a Nationalized/Scheduled Bank in India or from a reputed foreign Bank having a corresponding Bank in India;
ITB 20.3 (b)	**Deleted**.
ITB 20.3 (c)	**Deleted**.
ITB 20.3 (d)	Other types of acceptable securities: **None**
ITB 21.3	The written confirmation of authorization to sign on behalf of the Bidder shall consist of: *(a)* ***'Legally valid Power of Attorney to demonstrate the authority of the signatory to sign the Bid';*** *and* *(b)* ***'Power of Attorney signed by legally authorized signatories of all the members', in the case of Bids submitted by an existing or intended JV.***
D.	**Online Submission and Opening of Bids**
ITB 22.1	Class of DSC required is: ***Class 3.*** Bidders shall submit their Technical and Financial bids online on the e-procurement system.
ITB 23.1	**The deadline for uploading the Bids is:** Date: ***17.03.2025*** Time: ***15:00 hrs. (IST)***
ITB 25.1	The GoHP's e-procurement portal shall not allow the bidder to withdraw bid.
	E. Public Opening of Technical Parts of Bids
ITB 26.1	The online Bid opening shall take place at: Director (Projects), HPRIDCL, Nirman Bhawan, Nigam Vihar, Shimla-171002 Himachal Pradesh (India) Date: ***17.03.2025***

<table>
<tr><td></td><td>Time:15:30 hrs (IST).</td></tr>
<tr><td></td><td>F. Evaluation of Bids – General Provisions</td></tr>
<tr><td>ITB 30.3</td><td>The adjustment shall be based on the highest price of the item or component as quoted in other substantially responsive Bids, subject to a maximum of the estimated price of the item. If the price of the item or component cannot be derived from the price of other substantially responsive Bids, the Purchaser shall use its best estimate. If the missing Goods and Services are a scored technical feature, the relevant score will be set at zero.</td></tr>
<tr><td></td><td>H. Public Opening of Financial Parts of Bids</td></tr>
<tr><td>ITB 34.2(c)</td><td>Following the completion of the evaluation of the Technical Parts of the Bids, the Purchaser will notify all Bidders of the location, date and time of the public opening of Financial Parts.

In addition to the above the Purchaser shall publish a notice of the public opening of the Financial Parts on its website https://hptenders.gov.in/ and http://himachalservices.nic.in/hpridc/</td></tr>
<tr><td></td><td>I. Evaluation of Financial Parts of Bids</td></tr>
<tr><td>ITB 35.2</td><td>The Purchaser’s evaluation of responsive Bids will take into account technical factors, in addition to cost factors as specified in Section III, Bid Evaluation and Qualification Criteria.

If rated criterion is used:

The total weight “X” for the Technical features in the Evaluated Bid Score is: 50%

The technical factors and the corresponding weight out of 100% are:
<table>
<tr><th>Sl. No.</th><th>Technical Factors Scoring for Evaluation Criteria</th><th>Marks System</th><th>Category Weight (%)</th></tr>
<tr><td colspan="3">Category A. Organizational Strength</td><td>40</td></tr>
<tr><td>1</td><td>Number of years since the bidder is engaged in radar/sensor/rf based automated enforcement systems (as on 31.03.2024)</td><td>More than 5 Years - 25 marks

More than 4 and less than or equal to 5 Years –20 marks

More than or equal to 3 and less than or equal to 4 Years –15 marks

Less than 3 years - 0 marks</td><td></td></tr>
<tr><td>2</td><td>Number of Traffic Enforcement sites for which bidder has demonstrable expertise and experience in</td><td>More than or equal to 200 sites - 25 marks

More than or equal to 100 sites and less than 200 sites –20 marks

More than or equal to 70 sites and</td><td></td></tr>
</table>
</td></tr>
</table>

		radar/sensor/rf based automated enforcement systems (as on 31.03.2024)	less than 100 sites –**15 marks** Less than 70 sites - **0 marks**	
	3	Average annual turnover: of Bidder in Last three financial years as on 31ST March, 2024. FY 2021-2022, 2022-2023, 2023-24	More than or equal to Rs **150** crores –**25 marks** More than or equal to Rs **100** crores and Less than Rs **150** crores –**20 marks** More than or equal to Rs **55** crores and Less than Rs**100, crores** –**15 marks** Less than Rs **55** crores – **0 marks**	
	4	Number of ITEMS/Smart city projects implemented on last 10 years	More than **5 projects- 25 marks** **5 projects - 20 marks** More than or equal to 2 and up to **4 projects - 15 marks** Less than **2 projects- 0 marks**	
	Category B. Technical Solution			**30**
	1	Overall proposal clarity in the technical	**34 marks**	
	2	Quality of the proposed project execution methodology and plan	1. Overall comprehensiveness- **13 marks** 2. Project schedule- **7 marks** 3. Resource planning/ allocation- **7 marks** 4. Risk Management- **7 marks**	
	3	Personnel in Proposed Team	Evaluation based on Qualification and Experience of: Project Officer – **3 marks** Operations Manager- **3 marks** Systems Analyst - 2 **marks** Technical/Solutions Architect - **2 marks** Database architect - **2 marks** ITS Design Engineer – **3 marks** Systems Administrator - **2 marks**	
	4	ISO 9001:2015; ISO 27001:2022 and CMMI Level - 3-5	**15 marks**	

		certification		
	Category C. Solution Presentation and Demonstration			**30**
	5	Technical Presentation (see presentation evaluation criteria in Section III Evaluation and Qualification Criteria) **– 70 marks** **Note:** The slide deck of the technical presentation shall be submitted along with the bid.		
	6	**Proof of Concept (PoC) – 30 marks**		
	Total Evaluation Score – 300 marks			**100%**

Minimum category weighted technical score required to qualify in the Technical Bid Evaluation is 70 percentage.

ITB 35.4(f)	Discount Rate (I) (for net present value calculation of recurrent costs as referred to in paragraph 3.3(b) of Section III, Evaluation and Qualification Criteria, if applicable is: ***8 (eight)*** percent per annum.
ITB 35.6	Bids for Subsystems, lots, or slices of the overall Information System will ***not*** be accepted.
ITB 37.1	All prices shall be quoted in INR only.
ITB 40	Provisions related to Abnormally Low Bids shall apply.
ITB 42.3	*As additional qualification measures, the Information System offered by the Bidder with the Most Advantageous Bid may be subjected to the following tests and performance benchmarks prior to Contract award:* ***a) Software demonstration tests*** ***b) Camera Demonstration test*** ***c) Challan Processing Demonstration*** ***d) Performance benchmarks*** ***e) Documentation reviews*** As additional qualification measures, the Information System (or components/parts of it) offered by the Bidder with the Most Advantageous Bid may be subjected to the following tests and performance benchmarks prior to Contract award*:* ***a) Offence capture accuracy*** ***b) Additional AI features offered other than customer requirements*** ***c) Real time monitoring capabilities of VMS application*** ***d) Enhancement and scalability of offered solution.*** To build a successful bid response for the IRSES project, it is essential to meticulously align your proposal with the detailed measurements, milestones, and scoring guidelines outlined in Section III Evaluation and Qualification Criteria of the RFB; by clearly demonstrating your ability to meet or exceed these specified requirements and emphasizing clarity,

	compliance, and innovation throughout your response, you can maximize your evaluation score and significantly enhance your chances of being selected as the successful bidder.
ITB 44	The Standstill Period commences the day after the date the Purchaser has transmitted to all Bidders that submitted Bids, the Notification of its Intention to Award the Contract to the successful Bidder. However, where a Bidder has previously received notification, in accordance with ITB 34.1, that its Technical Part of Bid failed to meet the requirements of the bidding document, the Bidder will not receive a Notification of Intention to Award the Contract.
F.	**AWARD OF CONTRACT**
ITB 46	The award will be made on the basis of rated criteria pursuant to ITB 35.2, if applicable, in accordance with Section III, Evaluation and Qualification Criteria.
ITB 47	The maximum percentage by which quantities may be increased is: ***Ten percent***. The maximum percentage by which quantities may be decreased is: ***Ten percent***. The items for which the Purchaser may increase or decrease the quantities are the following: *a) AI based software solution license.* *b) Traffic Enforcement and Surveillance camera*
ITB 50.1	The successful Bidder *shall* submit the Beneficial Ownership Disclosure Form.
ITB 52	The Adjudicator to be proposed by the Purchaser shall be identified from the list provided by ***Indian Council of Arbitration (ICA)***. The daily fee payable to Adjudicator shall be as per the rules of the Institution.
ITB 53.1	The procedures for making a Procurement-related Complaint are detailed in the "Procurement Regulations for IPF Borrowers (Annex III)." A Procurement-related Complaint may challenge any of the following: a) The terms of the Bidding Documents; and b) The Purchaser's decision to award the contract. If a Bidder wishes to make a Procurement-related Complaint, the Bidder should submit its complaint following these procedures, in writing (by the quickest means available, that is either by email or fax), to: Mr. Pawan Kumar Sharma Director (Projects), HPRIDCL, Nirman Bhawan, Nigam Vihar, Shimla-171002 Himachal Pradesh (India)

	Telephone number +91-117-2627602 Facsimile number: +91-117-2620663, Email address: pdsrp-hp@nic.in

SECTION III - EVALUATION AND QUALIFICATION CRITERIA

This Section contains all the criteria that the Purchaser shall use to evaluate Bids and qualify Bidders. No other factors, methods or criteria shall be used. The Bidder shall provide all the information requested in the forms included in Section IV, Bidding Forms.

In line with the two-envelope bidding process, this section includes Evaluation and Qualification Criteria:

(i) Technical Part; and
(ii) Financial Part.

1. Technical Part

1.1. Adequacy of Technical Bid

Evaluation of the Bidder's Technical Bid will include apart from others (i) an examination of the technical aspects of the Bid in particular to confirm that all requirements of Section VII, Purchaser's Requirements have been met without any material deviation, reservation, or omission; (ii) that the bid is technically complete and responsive in terms of ITB 33; and (iii) an assessment of the Bidder's experience and technical capacity to source information system technology and components, mobilize resources – finances, suppliers, manufacturers, sub-contractors, and qualified key personnel, for implementation of the Information System and timely achievement of specified performance parameters etc.

1.2. In addition to the criteria listed in ITB 33.3 (a) to (e), the following factors shall apply: *As specified in BDS to ITB 35.2.*

1.3. Technical alternatives

If invited in accordance with ITB 13.4, will be evaluated as follows:

None

2. Qualification

Pursuant to ITB 33, the Purchaser shall assess each Bid against the following Qualification Criteria.

Factor	2.1. ELIGIBILITY					
Sub-Factor	Criteria					Documentation Required
	Requirement	Bidder				
		Single Entity	Joint Venture (existing or intended)			
			All members combined	Each member	At least one member	
2.1.1 Nationality	Nationality in accordance with ITB 4.4.	Must meet requirement	Must meet requirement	Must meet requirement	N / A	Form ELI –2.1.1 and 2.1.2, with attachments
2.1.2 Conflict of Interest	No- conflicts of interests as described in ITB 4.2.	Must meet requirement	Must meet requirement	Must meet requirement	N / A	Letter of Bid
2.1.3 Bank Ineligibility	Not having been declared ineligible by the Bank as described in ITB 4.5.	Must meet requirement	Must meet requirement	Must meet requirement	N / A	Letter of Bid
2.1.4 State owned Entity of the Borrower country	Compliance with conditions of ITB 4.6	Must meet requirement	Must meet requirement	Must meet requirement	N / A	Form ELI –2.1.1 and 2.1.2, with attachments
2.1.5 United Nations resolution or Borrower's country law	Not having been excluded as a result of prohibition in the Borrower's country laws or official regulations against commercial relations with the Bidder's country, or by an act of compliance with UN Security Council resolution, both in accordance with ITB 4.8	Must meet requirement	Must meet requirement	Must meet requirement	N / A	Letter of Bid

Factor	2.2. HISTORICAL CONTRACT NON-PERFORMANCE	
Sub-Factor	Criteria	Documentation

	Requirement	Bidder				Required
		Single Entity	Joint Venture (existing or intended)			
			All members combined	Each member	At least one member	
2.2.1 History of non-performing contracts	Non-performance of a contract1 did not occur as a result of Bidder's default since 1st January 2020.	Must meet requirement by itself or as member to past or existing JV	N / A	Must meet requirement[2]	N / A	Form CON - 2
2.2.2 Suspension	Not under suspension based on execution of a Bid Securing Declaration or Proposal Securing Declaration pursuant to ITB 4.7 and ITB 20.10	Must meet requirement	N / A	Must meet requirement	N / A	Letter of Bid
2.2.3 Pending Litigation	Bidder's financial position and prospective long-term profitability still sound according to criteria established in 2.3.1 below and assuming that all pending litigation will be resolved against the Bidder.	Must meet requirement by itself or as member to past or existing JV	N / A	Must meet requirement	N / A	Form CON – 2

Factor	2.3. FINANCIAL SITUATION

[1] Nonperformance, as decided by the Purchaser, shall include all contracts where (a) nonperformance was not challenged by the contractor, including through referral to the dispute resolution mechanism under the respective contract, and (b) contracts that were so challenged but fully settled against the contractor. Nonperformance shall not include contracts where Purchaser decision was overruled by the dispute resolution mechanism. Nonperformance must be based on all information on fully settled disputes or litigation, i.e. dispute or litigation that has been resolved in accordance with the dispute resolution mechanism under the respective contract and where all appeal instances available to the applicant have been exhausted.

[2] This requirement also applies to contracts executed by the Applicant as JV member.

Sub-Factor	Criteria					Documentation Required
	Requirement	Bidder				
		Single Entity	Joint Venture (existing or intended)			
			All members combined	Each member	At least one member	
2.3.1 Historical Financial Performance	Submission of audited balance sheets or if not required by the law of the Bidder's country, other financial statements acceptable to the Purchaser, for the last three [3] years to demonstrate the current soundness of the Bidders financial position and its prospective long-term profitability.	Must meet requirement	Must meet requirement	Must meet requirement	N / A	Form FIN – 2.3.1 with attachments (CA Certified Audited balance sheet)
2.3.2 Average Annual Turnover	Minimum average annual turnover of INR 55 crores, calculated as total certified payments received for contracts in progress or completed, within the last three (3) financial years.	Must meet requirement	Must meet requirement	N/A	Must meet requirement	Form FIN –2.3.2 (CA Audited Financial documents)
2.3.3 Financial Resources	The Bidder must demonstrate access to, or availability of, financial resources such as liquid assets, unencumbered real assets, lines of credit, and other financial means, other than any contractual advance payments, to meet the following cash-flow requirement: INR 25 crore.	Must meet requirement	Must meet requirement	N/A	Must meet requirement	Bank Certificate

Factor	2.4. EXPERIENCE					
Sub-Factor	Criteria					Documentation Required
	Requirement	Bidder				
		Single Entity	Joint Venture (existing or intended)			
			All members combined	Each member	At least one member	
2.4.1 General Experience	Experience under Information System contracts in the role of prime supplier, management contractor, JV member, or subcontractor for at least the last 5 years prior to the applications submission deadline.	Must meet requirement.	Must meet requirement	Must meet requirement	N / A	Form EXP-2.4.1
2.4.2 Specific Experience	Participation as a prime supplier, management contractor, JV[3] member, or sub-contractor in at least one (1) contract within the last Five (5) years prior to the bid submission deadline, each with a contract value of not less than INR fifty (45) Crores or two (2) contract within the last Five (5) years prior to the bid submission deadline, each with a contract value of not less than INR thirty (28) Crores. The contracts must have been successfully and substantially completed and be similar in nature to traffic enforcement systems for Government (Central/State/Public Departments) in India. The scope of similar projects shall include the implementation of traffic enforcement systems and Command and Control Center solutions, including Challan Generation and providing comprehensive on-field management support. Must meet requirements for all characteristics N / A Must meet requirement for one characteristic Form EXP 2.4.2	Must meet requirement	Must meet requirements for all characteristics	N / A	Must meet requirement for one characteristic	Form EXP 2.4.2
Even though the bidders may meet the above qualifying criteria, they are subject to be disqualified if they have: a. made misleading or false representations in the forms, statements, affidavits, and attachments submitted in proof of the qualification requirement; b. record of poor performance such as abandoning the works, not properly completion or financial failures etc. c. consistent history of litigation or arbitration awards against the bidder or any member or the joint venture.						

[3] For contracts under which the Bidder participated as a joint venture member or sub-contractor, only the Bidder's share, by value, and role and responsibilities shall be considered to meet this requirement.

2.5. Personnel

The Bidder must demonstrate that it will have the personnel for the key positions that meet the following requirements:

SL NO	Key expert position	Qualification	Experience & Expertise
1.	Project Officer	Graduate with PMP Certification or Equivalent	Should have minimum 7 Years' Experience in Traffic Enforcement project. Should have handled 3 or more similar projects.
2.	Operations Manager	Graduate with PMP Certification or Equivalent	Should have minimum 5 Years' Experience in Traffic Enforcement project. Should have handled 2 or more similar projects.
3.	Systems Analyst-	BTech in Information Technology with Professional Level IT Certifications in Storage, Server, and Virtualization Platforms	Should have minimum 7 years of Experience in Data center Projects. With ITMS project and Challan System operation experience.
4.	Technical/Solutions Architect-	Graduate in Information Technology with Professional Level IT Certifications in Routing, Switching and Firewalls	Should have minimum 7 years of experience in relevant technology and implemented minimum one project with 200+ sites connectivity using MPLS or SDWAN or WAN networks.
5.	Database architect-	Graduate in Information Technology with Database Administrative	Should have minimum 5 years of experience in relevant technology and implemented one project with database of similar use case.
6.	ITS Design Engineer-	Graduate with relevant technology Certifications	Should have minimum 5 year experience in implementation of CCTV, VMS technology with 200+ road safety or public Surveillance projects as part of smart city or any Government surveillance projects
7.	Systems Administrator	BTech in Information Technology with Professional Level IT Certifications in Storage, Server, and Virtualization Platforms	Should have minimum 5 years of Experience in Data center Projects. With Virtualization and SAN storage

The Bidder shall provide details of the proposed personnel and their experience records in the relevant Forms included in Section IV, Bidding Forms.

The Bidder must not have in his employment:

(i) the near relations (defined as first blood relations, and their spouses, of the bidder or the bidder's spouse) of persons of the following Government Departments

(ii) without Government permission, any person who retired as gazette officer within the last two years.

2.6. Subcontractors/vendors/manufacturers

The capabilities of the manufacturers and subcontractors proposed by the Bidder for the major items of supply or services listed below and which the Bidder intends to purchase or subcontract, will also be evaluated for acceptability.

Subcontractors/vendors/manufacturers for the following major items of supply or services must meet the following minimum criteria, herein listed for that item:

Item No.	Description of Item	Minimum Criteria to be Met
1.	**Nationality**	The subcontractor shall have the nationality of the Purchaser's country. A Subcontractor shall be deemed to have the nationality of a Purchaser's country if the Subcontractor is constituted, incorporated, or registered in and operates in conformity with the provisions of the laws of the Purchaser's country, as evidenced by its articles of incorporation (or equivalent documents of constitution or association) and its registration documents.
2.	**Specific Experience**	The Subcontractor shall have experience in designing or installation of traffic enforcement systems, Command and Control Centers, IT system integration, or Facility Management Services in Government projects in India over the last five (5) years.
3.	**Technical Support Services**	The Subcontractor shall have experience in providing on-field management support and conducting online/offline capacity building programs/training sessions for both technical and non-technical teams to manage the project post-implementation or during the handover period.

Failure to comply with this requirement will result in rejection of the subcontractor/vendor.

In the case of a Bidder who offers to supply and install major items of supply under the contract that the Bidder did not manufacture or otherwise produce, the Bidder shall provide the manufacturer's authorization, using the form provided in Section IV, showing that the

Bidder has been duly authorized by the manufacturer or producer of the related sub system or component to supply and install that item in the Purchaser's Country. The Bidder is responsible for ensuring that the manufacturer or producer complies with the requirements of ITB 4 and 5 and meets the minimum criteria listed above for that item.

2.7. If Bidder is a Joint Venture

a) The joint venture agreement should indicate precisely the role of the lead and all other members of JV in respect of relevant areas like planning, design, supply and installation of the Information System, key personnel etc., and financing. All members of JV should have active participation in the execution during the currency of the contract. The JV Agreement should clearly state that all members of the JV are jointly and severally responsible for the implementation of the contract;

b) One of the members shall be nominated as the Representative; and this authorization shall be evidenced by submitting a power of attorney signed by legally authorized signatories of all members;

c) The Representative shall be authorized to incur liabilities and receive instructions for and on behalf of any and all members of the Joint Venture and the entire execution of the contract including payment shall be done exclusively with the Representative;

d) All members of the Joint Venture shall be liable jointly and severally for the execution of the contract in accordance with the contract terms, and a statement to this effect shall be included in the authorization mentioned under (ii) above;

e) The Joint Venture agreement shall not be cancelled or amended unilaterally without consent of the Purchaser and a statement to this effect should appear in the JV agreement;

f) In order for a Joint Venture or consortium to qualify, each of its members must meet the criteria listed in this Section and all members together must meet the qualification in full. Failure to comply with this requirement will result in rejection of the joint venture's bid; and

g) In the event of any default by any member/(s) of Joint Venture, the other members shall accept the liability and execute the contract in full.

2.8. Criteria under Content Quality for scoring Solution Presentation and Demonstration marks

This section outlines the criteria used to evaluate the Solution Presentation and Demonstration for the Integrated Road Safety Enforcement System (IRSES) project. The scoring is divided into key technical factors that determine the effectiveness and compliance of the proposed solution with the project's requirements. The total score for this section is100 marks, distributed across various technical aspects as follows:

Technical Factor Criteria	**Explanation of the Criteria**	**Score: Give 0 Marks if**	**Score: Give 3 Mark if**	**Score: Give 10 Marks if**
1. System	Does the proposed	The proposed	The proposed	The proposed

Integration and Interoperability	solution ensure seamless integration with Mparivahan systems and infrastructure? Integration must include data sharing, communication protocols, and hardware compatibility.	solution has significant integration issues, lacks interoperability with current systems, and may require substantial modifications to existing infrastructure. Challan and payment gateway integration with Mparivahan not done in any of the projects in India will be considered as 0 marks.	solution integrates with most existing systems but may require some adjustments for full interoperability. Communication protocols and data sharing are mostly functional with some minor issues. Challan Generation, Payment reports, and installations are less than 5 in India.	solution fully integrates with Mparivahan for challan generation and payment gateways. The report generation based on the number of challans, revenue generation, and collection reports, and seamless integration of more than 5 done in previous projects will be considered and given the maximum mark for such features.
2. Data Accuracy and Real-Time Monitoring	Does the system provide accurate, real-time data for monitoring traffic and enforcing laws? This includes the precision of vehicle detection, speed monitoring, license plate recognition, and timely data relay to the command-and-control room.	The system fails to provide accurate or real-time data, leading to potential misidentification of vehicles, incorrect enforcement actions, and delays in data relay.	The system provides mostly accurate and real-time data but may have occasional lags or errors in specific scenarios, such as high traffic volume or poor weather conditions.	The system consistently provides accurate, real-time data across all scenarios, ensuring precise vehicle detection, speed monitoring, and license plate recognition, with instantaneous data relay to the command-and-control room.

3. User Interface and Command Center Operations	Is the user interface (UI) of the command-and-control system intuitive and designed to support effective operations? This includes the layout of the control center, ease of access to critical information, and the ability to manage multiple tasks simultaneously.	The UI is difficult to navigate, leading to inefficiencies in command center operations. The layout is cluttered, and accessing critical information is time-consuming, increasing the risk of delayed responses.	The UI is generally user-friendly but may require some user training. The command center layout is functional, with minor issues in accessing critical information or managing multiple tasks at once.	The UI is highly intuitive, with a well-organized layout that allows easy access to critical information and the ability to manage multiple tasks simultaneously, leading to efficient command center operations.
4. ITMS & E-challan systems	Does the OEM of ITMS & E-challan system had successfully integrated for e-Challan system with Vahan database / NIC.	If the OEM of ITMS & E-challan system should not have successful integration of e-Challan system with Vahan database / NIC to fulfill "One Nation, One E-Challan" requirement, in 3 or more projects	OEM of ITMS & E-challan system should have successful integration of e-Challan system with Vahan database / NIC to fulfill "One Nation, One E-Challan" requirement, in more than 3 Smart City/ ITMS projects (More than 1 lac E-challan) in India.	OEM of ITMS & E-challan system should have successful integration of e-Challan system with Vahan database / NIC to fulfill "One Nation, One E-Challan" requirement, in more than 5 Smart City/ ITMS projects (More than 3 lac E-challan) in India.

5. Software Standard and Design Structure	Is the proposed challan preparation, VMS applications designed and developed as per industry standards? This includes certification, especially compliance with Indian standards, and evidence of successful installations.	The proposed software lacks compliance with industry standards and has not been certified according to Indian regulations. There are few or no successful installations.	The proposed software meets most industry standards, has partial certification, and some successful installations but may lack full compliance with Indian regulations.	The proposed software is fully compliant with industry and Indian standards, has full certification, and numerous successful installations demonstrating reliability and effectiveness.
6. Technical Support and Maintenance	Is there a strong support and maintenance plan in place to address technical issues promptly? This includes the availability of technical support, response times, and regular system updates. Bidder and OEM previous projects and feedback will be considered for finalizing the capabilities.	Technical support is limited, with slow response times and inadequate maintenance planning, leading to potential long-term issues with system performance.	Technical support is generally available, with moderate response times and a basic maintenance plan that addresses most issues but may lack proactive updates.	There is a comprehensive technical support and maintenance plan with quick response times, regular system updates, and proactive maintenance strategies that ensure the system remains fully operational with minimal downtime.
7. ANPR accuracy and Integration Performance	Proposed ITMS platform (ANPR, RLVD, SVD, VDC and Traffic AI analytic), LPU should be of same make for tight & seamless integration for accurate performance.	If Proposed ITMS platform (ANPR, RLVD, SVD, VDC and Traffic AI analytic), LPU should not same make for tight & seamless integration for accurate Performance. Less than 80% ANPR accuracy from	Proposed ITMS platform (ANPR, RLVD, SVD, VDC and Traffic AI analytic), LPU should be of same make for tight & seamless integration for accurate performance. More than 80% ANPR accuracy from ITMS/ Smart	Proposed ITMS platform (ANPR, RLVD, SVD, VDC and Traffic AI analytic), LPU should be of same make for tight & seamless integration for accurate performance. More than 90% ANPR accuracy from ITMS/ Smart

		ITMS/ Smart City End-User shall be submitted along with the bid.	City End-User shall be submitted along with the bid.	City End-User shall be submitted along with the bid.
8. Solution Demonstration	Radar-based SVDS demonstrated successfully, meeting the technical and functional compliance as well.	Demonstrated but no previous installations or below 20 Installations	Fully demonstrated with OEM of ITMS system should have supplied minimum 20 nos. of 4D radar (Cumulative) based Speed enforcement system in India within last 5 years.	Fully demonstrated with OEM of ITMS system should have supplied minimum 40 nos. of 4D radar (Cumulative) based Speed enforcement system in India within last 5 years.
9. Hardware Demonstration	Whether the bidder/OEM has submitted demo units at the customer site to showcase the solution demonstration as per the BoM proposed.	Not successfully demonstrated the solution.	Solution demonstrated using virtual sites without all necessary hardware at customer premises.	Successfully demonstrated the solution with adequate hardware and software on premises.
10. Showcase the Existing Installed Site	Bidder/OEM must provide a virtual or physical visit to showcase the installed site.	Not done any previous installation in India.	Site demonstration of below 100 camera locations/sites.	Site showcase of more than or equal to 100 sites/camera locations.

Scoring Breakdown

- **Technical Presentation**: 70 marks
    - The presentation should address the criteria listed above, with a focus on demonstrating how the solution meets or exceeds the project's requirements. The evaluation will consider how well the solution is integrated, reliable, user-friendly, and compliant with industry standards. The slide deck of the technical presentation shall be submitted along with the bid.
- **Proof of Concept (PoC)**: 30 marks

- The PoC will involve a practical demonstration of the solution's capabilities, particularly its integration with existing systems, real-time data accuracy, and user interface functionality.

By carefully addressing each criterion and ensuring compliance with the outlined requirements, the bidder can maximize their score in the Solution Presentation and Demonstration section, ultimately enhancing their chances of securing the contract.

3. Financial Part

3.1. Combined Evaluation

The Purchaser will evaluate and compare the Bids that have been determined to be substantially responsive, pursuant to ITB 32.

If indicated by the BDS, the Purchaser's evaluation of responsive Bids will take into account technical factors, in addition to cost factors.

In such a case, an Evaluated Bid Score (B) will be calculated for each responsive Bid using the following formula, which permits a comprehensive assessment of the Bid price and the technical merits of each Bid:

$$B \equiv \frac{C_{low}}{C} X + \frac{T}{T_{high}} (1 - X)$$

where:

C = Evaluated Bid Price

C low = the lowest of all Evaluated Bid Prices among responsive Bids

T = the total Technical Score awarded to the Bid

Thigh = the Technical Score achieved by the Bid that was scored best among all responsive Bids

X = weight for the Technical Feature as specified in the BDS

The Bid with the best evaluated Bid Score (B) among responsive Bids shall be the Most Advantageous Bid provided the Bidder was prequalified and/or it was found to be qualified to perform the Contract in accordance with ITB 42.

3.2 Technical Evaluation (ITB 33.3 and ITB 33.4)

If, in addition to the cost factors, the Purchaser has chosen to give weight to important technical factors (i.e., the price weight, X, is less than 1 in the evaluation), the Total Technical Points assigned to each Bid in the Evaluated Bid Formula will be determined by adding and weighting the scores assigned by an evaluation committee to technical features of the Bid in accordance with the criteria set forth below.

(a) The technical features to be evaluated are generally defined below and specifically identified **in the BDS**:

(i) Performance, capacity, or functionality features that either exceed levels specified as mandatory in the Technical Requirements; and/or influence the life-cycle cost and effectiveness of the Information System.

(ii) Usability features, such as ease of use, ease of administration, or ease of expansion, which influence the life-cycle cost and effectiveness of the Information System.

(iii) The quality of the Bidder's Preliminary Project Plan as evidenced by the thoroughness, reasonableness, and responsiveness of: (a) the task and resource schedules, both general and specific, and (b) the proposed arrangements for management and coordination, training, quality assurance, technical support, logistics, problem resolution, and transfer of knowledge, and other such activities as specified by the Purchaser in Section VII, Technical Requirements or proposed by the Bidder based on the Bidder's experience.

(iv) Any sustainable procurement requirement if specified in Section VII-Requirements of the Information System.

(b) Feature scores will be grouped into a small number of evaluation categories, generally defined below and specifically identified in the BDS, namely:

(i) The technical features that reflect how well the Information System meets the Purchaser's Business Requirements (including quality assurance and risk-containment measures associated with the implementation of the Information System).

(ii) The technical features that reflect how well the Information System meets the System's Functional Performance Standards.

(iii) The technical features that reflect how well the Information System meets the General Technical Requirements for hardware, network and communications, Software, and Services.

(c) As specified **in the BDS**, each category will be given a weight and within each category each feature may also be given a score.

(d) During the evaluation process, the evaluation committee will assign each technical criteria under the respective category (j), a whole number score with predefined values as specified **in the BDS,** that represents an objective way of rating e.g., IRSES solution represents a desirable technical feature, operational functionality demonstrated by the bidder, etc.;

(e) The category technical score will be combined in a weighted sum to form the total Technical Bid Score using the following formula:

$$T \equiv \sum_{j=1}^{n} S_j * W_j$$

where:

S_j = the Category Technical Score of category "j"

W_j = the weight of category "j" as specified in the BDS

n = the number of categories

and $\sum_{j=1}^{n} W_j = 1$

3.3 Economic Evaluation

The following factors and methods will apply:

(a) Time Schedule:

None.

(b) Recurrent Costs

Since the bidder is required to provide operation, maintenance and management support of the system, the resulting recurrent costs will be evaluated according to the principles given hereafter, including the cost of recurrent cost items for operation, maintenance and management support phase of the contract period, based on prices furnished by each bidder in Price Schedule Nos. 1.3. Such costs shall be added to the Bid price for evaluation.

Option 1: The recurrent costs factors for calculation of the implementation schedule are:

(i) number of years for operation, maintenance and management support

(ii) Hardware Maintenance

(iii) Software Licenses & Updates

(iv) System and General-Purpose Software

(v) Application, Standard and Custom Software

(vi) Technical and Operation support Services

(vii) Technical resource personnel

(viii) Telecom/Internet cost

(ix) Electricity charges for control room and field locations, and

(x) Any other charges for fulfilling the solution for the operations and maintenance for 5 years (if any).

The Recurrent Costs (R) are reduced to net present value and determined using the following formula:

$$R^{o} \sum_{X=1}^{N} \frac{R_x}{(1+I)^x}$$

where:

N = number of years of evaluated recurrent costs

x = an index number 1, 2, 3, ... N.

R_x = total Recurrent Costs for year "x," as recorded in the Recurrent Cost Table.

I = discount rate to be used for the Net Present Value calculation, as specified **in the BDS for ITB 35.4.**

(c) Alternatives – Financial Part

If invited in accordance with ITB 13.4, will be evaluated as follows: ***None.***

(d) Specific additional criteria in addition to ITB 35.4 (a) to (e)

The relevant evaluation method, if any, shall be as follows: ***None.***

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Letter of Bid – Technical Part

INSTRUCTIONS TO BIDDERS: DELETE THIS BOX ONCE YOU HAVE COMPLETED THE DOCUMENT

The Bidder must prepare this Letter of Bid on stationery with its letterhead clearly showing the Bidder's complete name and business address.

Note: All italicized text is to help Bidders in preparing this form.

Date of this Bid submission: [*insert date (as day, month and year) of Bid submission*]

RFB No.: [*insert number of RFB process*]

Alternative No.: [*insert identification No if this is a Bid for an alternative*]

To: **[*insert complete name of Purchaser]***

We, the undersigned, hereby submit our Bid, in two parts, namely:

a) the Technical Part, and

b) the Financial Part

In submitting our Bid, we make the following declarations:

(a) **No reservations:** We have examined and have no reservations to the bidding document, including Addenda issued in accordance with Instructions to Bidders (ITB 8);

(b) **Eligibility**: We meet the eligibility requirements and have no conflict of interest in accordance with ITB 4;

(c) **Bid-Securing Declaration:** We have not been suspended nor declared ineligible by the Purchaser based on execution of a Bid-Securing Declaration or Proposal-Securing Declaration in the Purchaser's Country in accordance with ITB 4.7;

(d) **Conformity:** We offer to provide design, supply and installation services in conformity with the bidding document of the following: [*insert a brief description of the IS Design, Supply and Installation Services*];

(e) **Bid Validity Period:** Our Bid shall be valid for the period specified in BDS ITB 19.1 (or as amended if applicable) from the date fixed for the Bid submission deadline (specified in BDS ITB 23.1 (or as amended if applicable), and it shall remain binding upon us and may be accepted at any time before the expiration of that period;

(f) **Performance Security:** If our Bid is accepted, we commit to obtain a Performance Security in accordance with the bidding document;

(g) **One Bid Per Bidder:** We are not submitting any other Bid(s) as an individual Bidder, and we are not participating in any other Bid(s) as a Joint Venture member, and meet the requirements of ITB 4.3, other than alternative Bids submitted in accordance with ITB 13;

(h) **Suspension and Debarment**: We, along with any of our subcontractors, suppliers, consultants, manufacturers, or service providers for any part of the contract, are not subject to, and not controlled by any entity or individual that is subject to, a temporary

suspension or a debarment imposed by the World Bank Group or a debarment imposed by the World Bank Group in accordance with the Agreement for Mutual Enforcement of Debarment Decisions between the World Bank and other development banks. Further, we are not ineligible under the Purchaser's Country laws or official regulations or pursuant to a decision of the United Nations Security Council;

(i) **State-owned enterprise or institution**: [*select the appropriate option and delete the other*] [*We are not a state-owned enterprise or institution*] / [*We are a state-owned enterprise or institution but meet the requirements of ITB 4.6*];

(j) **Binding Contract**: We understand that this Bid, together with your written acceptance thereof included in your Letter of Acceptance, shall constitute a binding contract between us, until a formal contract is prepared and executed;

(k) **Not Bound to Accept:** We understand that you are not bound to accept the lowest evaluated cost Bid, the Most Advantageous Bid or any other Bid that you may receive;

(l) **Fraud and Corruption:** We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf engages in any type of Fraud and Corruption.

(m) We also undertake that, in competing for (and, if the award is made to us, in executing) the above contract, we will strictly observe the laws against fraud and corruption in force in India on date namely "Prevention of Corruption Act 1988"; and

(n) **Adjudicator:** We accept the appointment of *[insert name proposed in Bid Data Sheet]* as the Adjudicator.

[or]

We do not accept the appointment of *[insert name proposed in Bid Data Sheet]* as the Adjudicator, and propose instead that *[insert name]* be appointed[1] as Adjudicator, whose daily fees and biographical data are attached.

Name of the Bidder: *[*insert complete name of person signing the Bid*]

Name of the person duly authorized to sign the Bid on behalf of the Bidder: **[*insert complete name of person duly authorized to sign the Bid*]

Title of the person signing the Bid: [*insert complete title of the person signing the Bid*]

Signature of the person named above: [*insert signature of person whose name and capacity are shown above*]

Date signed [*insert date of signing*] **day of** [*insert month*], [*insert year*]

*****: In the case of the Bid submitted by joint venture specify the name of the Joint Venture as Bidder

**: Person signing the Bid shall have the power of attorney given by the Bidder to be attached with the Bid

[1] In case appointment of Adjudicator was proposed from the list provided by an Institution in ITB 52, the replacement should also be proposed from the list of same institution.

Appendix to Technical Part: Technical Proposal

Form ELI 2.1.1 Bidder Information Form

[The Bidder shall fill in this Form in accordance with the instructions indicated below. No alterations to its format shall be permitted and no substitutions shall be accepted.]

Date: *[insert date (as day, month and year) of Bid submission*]
RFB No.: *[insert number of Bidding process]*
Alternative No.: *[insert identification No if this is a Bid for an alternative]*

1. Bidder's Name [*insert Bidder's legal name]*
2. In case of JV, legal name of each member: *[insert legal name of each member in JV]*
3. Bidder's actual or intended country of registration: *[insert actual or intended country of registration]*
4. Bidder's year of registration: *[insert Bidder's year of registration]*
5. Bidder's Address in country of registration: *[insert Bidder's legal address in country of registration]*
6. Bidder's Authorized Representative Information Name: *[insert Authorized Representative's name]* Address: *[insert Authorized Representative's Address]* Telephone/Fax numbers: *[insert Authorized Representative's telephone/fax numbers]* Email Address: *[insert Authorized Representative's email address]*
7. Attached are copies of original documents of *[check the box(es) of the attached original documents]* ☐ Articles of Incorporation (or equivalent documents of constitution or association), and/or documents of registration of the legal entity named above, in accordance with ITB 4.4. ☐ In case of JV, letter of intent to form JV or JV agreement, in accordance with ITB 4.1. ☐ In case of state-owned enterprise or institution, in accordance with ITB 4.6 documents establishing: Legal and financial autonomy Operation under commercial law Establishing that the Bidder is not under the supervision of the Purchaser 8. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership. *[If required under BDS ITB 50.1, the successful Bidder shall provide additional information on beneficial ownership, using the Beneficial Ownership Disclosure Form.]*

Form ELI 2.1.2 Bidder's JV Members Information Form

[The Bidder shall fill in this Form in accordance with the instructions indicated below. The following table shall be filled in for the Bidder and for each member of a Joint Venture].

Date: *[insert date (as day, month and year) of Bid submission*]
RFB No.: *[insert number of Bidding process]*
Alternative No.: *[insert identification No if this is a Bid for an alternative]*

1. Bidder's Name: *[insert Bidder's legal name]*
2. Bidder's JV Member's name: *[insert JV's Member legal name]*
3. Bidder's JV Member's country of registration: *[insert JV's Member country of registration]*
4. Bidder's JV Member's year of registration: *[insert JV's Member year of registration]*
5. Bidder's JV Member's legal address in country of registration: *[insert JV's Member legal address in country of registration]*
6. Bidder's JV Member's authorized representative information Name: *[insert name of JV's Member authorized representative]* Address: *[insert address of JV's Member authorized representative]* Telephone/Fax numbers: *[insert telephone/fax numbers of JV's Member authorized representative]* Email Address: *[insert email address of JV's Member authorized representative]*
7. Attached are copies of original documents of *[check the box(es) of the attached original documents]* ☐ Articles of Incorporation (or equivalent documents of constitution or association), and/or registration documents of the legal entity named above, in accordance with ITB 4.4. ☐ In case of a state-owned enterprise or institution, documents establishing legal and financial autonomy, operation in accordance with commercial law, and they are not under the supervision of the Purchaser in accordance with ITB 4.6. 8. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership. *[If required under BDS ITB 50.1, the successful Bidder shall provide additional information on beneficial ownership for each JV member using the Beneficial Ownership Disclosure Form.]*

DETAILS OF PARTICIPATION IN THE JOINT VENTURE

PARTICIPATION DETAILS	FIRM 'A' (Lead Partner)	FIRM 'B'	FIRM 'C'
Financial			
Name of the Banker(s)			
Planning			
Supply of information systems Equipment			
Software/ development/ /integration/warranty/post warranty services etc.			
Key Personnel			
Execution of installation of the information systems (Give details on contribution of each partner and the controlling partner)			

The Joint Venture should indicate the details of participation as above.

Form CON – 2 Historical Contract Non-Performance and Pending Litigation

Bidder's Legal Name: _____ Date: _____

JV member Legal Name: _____RFB No.: _____

Non-Performing Contracts in accordance with Section III, Evaluation and Qualification Criteria			
Contract non-performance did not occur during the stipulated period, in accordance with Sub-Factor 2.2.1 of Section III, Evaluation Criteria			
Pending Litigation, in accordance with Section III, Evaluation and Qualification Criteria			
No pending litigation in accordance with Sub-Factor 2.2.3 of Section III, Evaluation Criteria Pending litigation in accordance with Sub-Factor 2.2.3 of Section III, Evaluation Criteria, as indicated below			
Year	Outcome as Percent of Total Assets	Contract Identification	Total Contract Amount (current value, US$ equivalent)
_____	_____	Contract Identification: Name of Purchaser: Address of Purchaser: Matter in dispute:	_____
_____	_____	Contract Identification: Name of Purchaser: Address of Purchaser: Matter in dispute:	_____

Form EXP 2.4.1 Experience - General Experience

[The following table shall be filled in for the Bidder and for each member of a Joint Venture]

[The Bidder / each member of a Joint Venture shall attach relevant supporting documents such as work order, client certificate, contract document to substantiate their experience]

Bidder's Legal Name: _____ Date: _____
JV Member Legal Name: _____ RFB No.: _____

Starting Month / Year	Ending Month / Year	Years*	Contract Identification	Role of Bidder
_____	_____		Contract name: Brief Description of the Information System performed by the Bidder: Name of Purchaser: Address:	_____
_____	_____		Contract name: Brief Description of the Information System performed by the Bidder: Name of Purchaser: Address:	_____
_____	_____		Contract name: Brief Description of the Information System performed by the Bidder: Name of Purchaser: Address:	_____
_____	_____		Contract name: Brief Description of the Information System performed by the Bidder: Name of Purchaser: Address:	_____
_____	_____		Contract name: Brief Description of the Information System performed by the Bidder: Name of Purchaser: Address:	_____
_____	_____		Contract name: Brief Description of the Information System performed by the Bidder: Name of Purchaser: Address:	_____

*List calendar year for years with contracts with at least nine (9) months activity per year starting with the earliest year

Form EXP – 2.4.2 Specific Experience

Bidder's Legal Name: _____ Date: _____

JV Member Legal Name: _____ RFB No.: _____

Similar Contract Number: ___ of ___ required.	**Information**		
Contract Identification	_____		
Award date Completion date	_____ _____		
Role in Contract	☐ Prime Supplier	☐ Management Contractor	☐ Subcontractor
Total contract amount	_____		INR_____
If member in a JV or subcontractor, specify participation of total contract amount	_____%	_____	INR_____
Purchaser's Name:	_____		
Address: Telephone/fax number: E-mail:	_____ _____ _____ _____		

Form EXP – 2.4.2 (cont.) Specific Experience (cont.)

Bidder's Legal Name: _____

JV Member Legal Name: _____

Similar Contract No. __ [insert specific number] of [total number of contracts] ___ required	**Information**
Description of the similarity in accordance with Sub-Factor 2.4.2 of Section III:	
Amount	_____
Physical size	_____
Complexity	_____
Methods/Technology	_____
Key Activities	_____

Form CCC Summary Sheet: Current Contract Commitments / Work in Progress

Name of Bidder or member of a Joint Venture

Bidders and each member to an Joint Venture bid should provide information on their current commitments on all contracts that have been awarded, or for which a letter of intent or acceptance has been received, or for contracts approaching completion, but for which an unqualified, full completion certificate has yet to be issued.

Name of contract	**Purchaser, contact address/tel./fax**	**Value of outstanding Information System (current INR equivalent)**	**Estimated completion date**	**Average monthly invoicing over last six months (INR/month)**
1.				
2.				
3.				
4.				
5.				
etc.				

Form FIN – 2.3.1 Financial Situation Historical Financial Performance

Bidder's Legal Name: _____ Date: _____

JV Member Legal Name: _____ RFB No.: _____

To be completed by the Bidder and, if JV, by each member

Financial information in INR equivalent	**Historic information for previous _____ (__) years (INR equivalent in 000s)**						
	Year 1	Year 2	Year 3	Year …	Year n	Avg.	Avg. Ratio
Information from Balance Sheet							
Total Assets (TA)							
Total Liabilities (TL)							
Net Worth (NW)							
Current Assets (CA)							
Current Liabilities (CL)							
Information from Income Statement							
Total Revenue (TR)							
Profits Before Taxes (PBT)							

Attached are copies of financial statements (balance sheets, including all related notes, and income statements) for the years required above complying with the following conditions:

(a) Must reflect the financial situation of the Bidder or member to a JV, and not sister or parent companies
(b) Historic financial statements must be audited by a certified accountant
(c) Historic financial statements must be complete, including all notes to the financial statements
(d) Historic financial statements must correspond to accounting periods already completed and audited (no statements for partial periods shall be requested or accepted)

Form FIN – 2.3.2 Average Annual Turnover

Bidder's Legal Name: _____ Date: _____

JV Member Legal Name: _____ RFB No.: _____

Annual turnover data (applicable activities only) **	
Year	Amount in INR
	_____
	_____
	_____
	_____
	_____
*Average Annual Turnover	_____

*Average annual turnover calculated as total certified payments received for work in progress or completed, divided by the number of years specified in Section III, Evaluation and Qualification Criteria, Sub-Factor 2.3.2. This should be certified by a Chartered Accountant or a Professional with an equivalent internationally recognized title.

**Apart from the overall table for the bidder including all JV members, this table shall also be repeated for each individual JV member.

Form FIN 2.3.3 Financial Resources

Specify proposed sources of financing, such as liquid assets, unencumbered real assets, lines of credit, and other financial means, net of current commitments, available to meet the total cash flow demands of the subject contract or contracts as indicated in Section III, Evaluation and Qualification Criteria

Source of financing	Amount (INR equivalent)
1.	
2.	
3.	
4.	

Personnel Capabilities - Key Personnel

Name of Bidder or member of a Joint Venture

Bidders should provide the names and details of the suitably qualified Personnel to perform the Contract. The data on their experience should be supplied using the Form PER-2 below for each candidate.

Key Personnel

1.	**Title of position:** ...	
	Name of candidate:	
	Duration of appointment:	[*insert the whole period (start and end dates) for which this position will be engaged*]
	Time commitment: for this position:	[*insert the number of days/week/months/ that has been scheduled for this position*]
	Expected time schedule for this position:	[*insert the expected time schedule for this position (e.g. attach high level Gantt chart*]
2.	**Title of position:** ...	
	Name of candidate:	
	Duration of appointment:	[*insert the whole period (start and end dates) for which this position will be engaged*]
	Time commitment: for this position:	[*insert the number of days/week/months/ that has been scheduled for this position*]
	Expected time schedule for this position:	[*insert the expected time schedule for this position (e.g. attach high level Gantt chart*]
3.	**Title of position:** ...	
	Name of candidate:	
	Duration of appointment:	[*insert the whole period (start and end dates) for which this position will be engaged*]
	Time commitment: for this position:	[*insert the number of days/week/months/ that has been scheduled for this position*]
	Expected time schedule for this position:	[*insert the expected time schedule for this position (e.g. attach high level Gantt chart*]

4.	**Title of position:** …	
	Name of candidate	
	Duration of appointment:	[*insert the whole period (start and end dates) for which this position will be engaged*]
	Time commitment: for this position:	[*insert the number of days/week/months/ that has been scheduled for this position*]
	Expected time schedule for this position:	[*insert the expected time schedule for this position (e.g. attach high level Gantt chart*]
5...	**Title of position:** …	
	Name of candidate	
	Duration of appointment:	[*insert the whole period (start and end dates) for which this position will be engaged*]
	Time commitment: for this position:	[*insert the number of days/week/months/ that has been scheduled for this position*]
	Expected time schedule for this position:	[*insert the expected time schedule for this position (e.g. attach high level Gantt chart*]

Candidate Summary

Name of Bidder or member of a Joint Venture

Position		Candidate □ Prime □ Alternate
Candidate information	Name of candidate	Date of birth
	Professional qualifications	
Present employment	Name of Employer	
	Address of Employer	
	Telephone	Contact (manager / personnel officer)
	Fax	email
	Job title of candidate	Years with present Employer

Summarize professional experience over the last twenty years, in reverse chronological order. Indicate particular technical and managerial experience relevant to the project.

From	To	Company/Project/ Position/Relevant technical and management experience

Declaration

I, the undersigned Key Personnel, certify that to the best of my knowledge and belief, the information contained in this Form PER-2 correctly describes myself, my qualifications and my experience.

I confirm that I am available as certified in the following table and throughout the expected time schedule for this position as provided in the Bid:

Commitment	**Details**
Commitment to duration of contract:	*[insert period (start and end dates) for which this Key Personnel is available to work on this contract]*
Time commitment:	*[insert the number of days/week/months/ that this Key Personnel will be engaged]*

I understand that any misrepresentation or omission in this Form may:

(a) be taken into consideration during Bid evaluation;

(b) my disqualification from participating in the Bid;

(c) my dismissal from the contract.

Name of Key Personnel: [*insert name*]

Signature: _____

Date: (day month year): _____

Countersignature of authorized representative of the Bidder:

Signature: _____

Date: (day month year): _____

Technical Capabilities

Name of Bidder or member of a Joint Venture

The Bidder shall provide adequate information to demonstrate clearly that it has the technical capability to meet the requirements for the Information System. With this form, the Bidder should summarize important certifications, proprietary methodologies, and/or specialized technologies that the Bidder proposes to utilize in the execution of the Contract or Contracts.

Manufacturer's Authorization

Note: The Bidder shall require the Manufacturer to fill in this Form in accordance with the instructions indicated. This authorization should be written on the letterhead of the Manufacturer and be signed by a person with the proper authority to sign documents that are binding on the Manufacturer. The Bidder shall include it in its bid, if so indicated in the BDS.

Date: *[insert date (as day, month and year) of Bid Submission]*
Request for Bids Title and No.: [*Purchaser insert:* ***RFB Title and Number****]*
Alternative No.: *[insert identification No if this is a Bid for an alternative]*

To: [*Purchaser insert:* ***Purchaser's Officer to receive the Manufacture's Authorization****]*

WHEREAS *[insert:* ***Name of Manufacturer*** *]* who are official producers of *[insert:* ***items of supply by Manufacturer*** *]* and having production facilities at *[insert:* ***address of Manufacturer*** *]* do hereby authorize *[insert:* ***name of Bidder or Joint Venture*** *]* located at *[insert:* ***address of Bidder or Joint Venture*** *]* (hereinafter, the "Bidder") to submit a bid and subsequently negotiate and sign a Contract with you for providing the following Products produced by us:

We hereby confirm that, in case the bidding results in a Contract between you and the Bidder, the above-listed products will come with our full standard warranty.

No company or firm or individual other than M/s. _____ are authorized to bid, and conclude the contract for the above goods manufactured by us against this specific RFB. *[This para should be deleted for simple items where manufacturers normally sell the product through different stockists]*.

Name *[insert:* ***Name of Officer****]* in the capacity of *[insert:* ***Title of Officer]***

Signed _____

Duly authorized to sign the authorization for and on behalf of: *[insert:* ***Name of Manufacturer****]*

Dated this *[insert:* ***ordinal****]* day of [*insert:* ***month****]*, *[insert:* ***year****]*.

[add Corporate Seal (where appropriate)]

Subcontractor's Agreement

Note: This agreement should be written on the letterhead of the Subcontractor and be signed by a person with the proper authority to sign documents that are binding on the Subcontractor.

Request for Bids Title and No.: [*Purchaser insert:* ***RFB Title and Number****]*

To: [*Purchaser insert:* ***Purchaser's Officer to receive the Subcontractor's Agreement]***

WHEREAS *[insert:* ***Name of Subcontractor****]*, having head offices at *[insert:* ***address of Subcontractor****]*, have been informed by *[insert:* ***name of Bidder or Joint Venture****]* located at *[insert:* ***address of Bidder or Joint Venture****]* (hereinafter, the "Bidder") that it will submit a bid in which *[insert:* ***Name of Subcontractor****]* will provide [*insert:* ***items of supply or services provided by the Subcontractor****]*. We hereby commit to provide the above-named items, in the instance that the Bidder is awarded the Contract.

Name *[insert:* ***Name of Officer****]* in the capacity of *[insert:* ***Title of Officer]***

Signed _____

Duly authorized to sign the authorization for and on behalf of: *[insert:* ***Name of Subcontractor****]*

Dated this *[insert:* ***ordinal****]* day of [*insert:* ***month****]*, *[insert:* ***year****]*.

[add Corporate Seal (where appropriate)]

List of Proposed Subcontractors

	Item	Proposed Subcontractor	Place of Registration & Qualifications

INTELLECTUAL PROPERTY FORMS

Notes to Bidders on working with the Intellectual Property Forms

In accordance with ITB 11.2(i), Bidders must submit, as part of their bids, lists of all the Software included in the bid assigned to one of the following categories: (A) System, General-Purpose, or Application Software; or (B) Standard or Custom Software. Bidders must also submit a list of all Custom Materials. These categorizations are needed to support the Intellectual Property in the GCC and SCC.

Software List

Software Item	System Software	General-Purpose Software	Application Software	Standard Software	Custom Software
Central monitoring and managing dashboard					
Challan Generation and Mparivahan integration software					
Centrally managed VMs application as industry standard customer use cases					
Adequate license and support software in customer name					
Sufficient OS and Virtualization software as per the proposed solution and technical compliance shared					
Centrally managed VMs application as industry standard customer use cases					
Adequate license and support software in customer name					
Sufficient OS and Virtualization software as per the proposed solution and technical compliance shared					

Attachments: Proposed Software Licenses

List of Custom Materials

This table can be used by the bidder to list all custom or additional materials that are required for the proposed solution but are not included in the BoQ (Bill of Quantities) sheet.

Item No.	Description of Material	Purpose/Function	Quantity Required	Remarks
1.	*[Material Name]*	*[Description of why this material is required]*	*[Quantity]*	*[Any specific notes]*
2.	*[Material Name]*	*[Description of why this material is required]*	*[Quantity]*	*[Any specific notes]*
3.	*[Material Name]*	*[Description of why this material is required]*	*[Quantity]*	*[Any specific notes]*
4.	*[Material Name]*	*[Description of why this material is required]*	*[Quantity]*	*[Any specific notes]*
5.	*[Material Name]*	*[Description of why this material is required]*	*[Quantity]*	*[Any specific notes]*

CONFORMANCE OF INFORMATION SYSTEM MATERIALS

Format of the Technical Bid

In accordance with ITB 16.2, the documentary evidence of conformity of the Information System to the bidding documents includes (but is not restricted to):

(a). The Bidder's Preliminary Project Plan, including, but not restricted, to the topics specified in the BDS ITB 16.2. The Preliminary Project Plan should also state the Bidder's assessment of the major responsibilities of the Purchaser and any other involved third parties in System supply and installation, as well as the Bidder's proposed means for coordinating activities by each of the involved parties to avoid delays or interference.

(b). A written confirmation by the Bidder that, if awarded the Contract, it shall accept responsibility for successful integration and interoperability of all the proposed Information Technologies included in the System, as further specified in the Technical Requirements.

(c). Item-by-Item Commentary on the Technical Requirements demonstrating the substantial responsiveness of the overall design of the System and the individual Information Technologies, Goods, and Services offered to those Technical Requirements.

In demonstrating the responsiveness of its bid, the Bidder must use the Technical Responsiveness Checklist (Format). Failure to do so increases significantly the risk that the Bidder's Technical Bid will be declared technically non-responsive. Among other things, the checklist should contain explicit cross-references to the relevant pages in supporting materials included the Bidder's Technical Bid.

Note: The Technical Requirements are voiced as requirements of the *Supplier* and/or the *System*. The Bidder's response must provide clear evidence for the evaluation team to assess the credibility of the response. A response of "yes" or "will do" is unlikely to convey the credibility of the response. The Bidder should indicate *that* – and to the greatest extent practical – *how* the Bidder would comply with the requirements if awarded the contract. Whenever the technical requirements relate to feature(s) of existing products (e.g., hardware or software), the features should be described and the relevant product literature referenced. When the technical requirements relate to professional services (e.g., analysis, configuration, integration, training, etc.) some effort should be expended to describe how they would be rendered – not just a commitment to perform the [cut-and-paste] requirement. Whenever a technical requirement is for the Supplier to provide certifications (e.g., ISO 9001), copies of these certifications must be included in the Technical Bid.

Note: The Manufacture's Authorizations (and any Subcontractor Agreements) are to be included in Attachment 2 (Bidder Qualifications), in accordance with and ITB 15.

Note: As a matter of practice, the contract cannot be awarded to a Bidder whose Technical Bid deviates (materially) from the Technical Requirements – *on any Technical Requirement*. Such deviations include omissions (e.g., non-responses) and responses that do not meet or exceed the requirement. Extreme care must be exercised in the preparation and presentation of the responses to all the Technical Requirements.

(d). Supporting materials to underpin the Item-by-item Commentary on the Technical Requirements (e.g., product literature, white-papers, narrative descriptions of technical approaches to be employed, etc.). In the interest of timely bid evaluation and contract

award, Bidders are encouraged not to overload the supporting materials with documents that do not directly address the Purchaser's requirements.

(e). Any separate and enforceable contract(s) for Recurrent Cost items which the BDS ITB 17.2 required Bidders to bid.

Note: To facilitate bid evaluation and contract award, Bidders encouraged to provide electronic copies of their Technical Bid – preferably in a format that the evaluation team can extract text from to facilitate the bid clarification process and to facilitate the preparation of the Bid Evaluation Report.

Technical Responsiveness Checklist (Format)

Tech. Require. No. 1	Technical Requirement: *[insert:* ***abbreviated description of Requirement****]*
Bidder's technical reasons supporting compliance:	
Bidder's cross references to supporting information in Technical Bid:	

Tech. Require. No. 2	Technical Requirement: *[insert:* ***abbreviated description of Requirement****]*
Bidder's technical reasons supporting compliance:	
Bidder's cross references to supporting information in Technical Bid:	

Form of Bid Security (Bank Guarantee)

[The bank shall fill in this Bank Guarantee Form in accordance with the instructions indicated.]

[Guarantor letterhead or SWIFT identifier code]

_____

Beneficiary: [*Purchaser to insert its name and address]* _____

RFB No.: [*Purchaser to insert reference number for the Request for Bids]*

Alternative No*.: [Insert identification No if this is a Bid for an alternative]*

Date: _____ *[Insert date of issue]* _____

BID GUARANTEE No.: _ *[Insert guarantee reference number]* _____

Guarantor: [*Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that ____ *[insert name of the Bidder, which in the case of a joint venture shall be the name of the joint venture (whether legally constituted or prospective) or the names of all members thereof]* _____ (hereinafter called "the Applicant") has submitted or will submit the Beneficiary its bid _____ (hereinafter called "the Bid") for the execution of _____ under Request for Bids No. _____ ("the RFB").

Furthermore, we understand that, according to the Beneficiary's, Bids must be supported by a Bid guarantee.

At the request of the Applicant, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of _____ *(*_____) upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or a separate signed document accompanying the demand, stating that either the Applicant:

a) (has withdrawn its Bid during the period of bid validity set forth in the Applicant's Letter of Bid ("the Bid Validity Period"), or any extension thereof provided by the Applicant; or

b) having been notified of the acceptance of its Bid by the Beneficiary during the period of Bid validity or any extension thereof provided by the Applicant has failed to: (i) execute the Contract Agreement, if required, or (ii) furnish the performance security, in accordance with the Instructions to Bidders ("ITB") of the Beneficiary's bidding document.

This guarantee will expire: (a) if the Applicant is the successful Bidder, upon our receipt of copies of the contract agreement signed by the Applicant and the Performance Security issued to the Beneficiary in relation to such Contract Agreement; or (b) if the Applicant is not the successful Bidder, upon the earlier of (i) our receipt of a copy of the Beneficiary's

notification to the Applicant of the results of the Bidding process; or (ii) forty-five days after the expiration of the Bidder's Bid Validity Period.

Consequently, any demand for payment under this guarantee must be received by us at the office on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758.

_____

[signature(s)]

Note: All italicized text is for use in preparing this form and shall be deleted from the final product.

Letter of Bid – Financial Part

INSTRUCTIONS TO BIDDERS: DELETE THIS BOX ONCE YOU HAVE COMPLETED THE DOCUMENT

The Bidder must prepare this Letter of Bid on stationery with its letterhead clearly showing the Bidder's complete name and business address.

Note: All italicized text is to help Bidders in preparing this form.

Date of this Bid submission: [*insert date (as day, month and year) of Bid submission*]

RFB No.: [*insert number of RFB process*]

Alternative No.: [*insert identification No if this is a Bid for an alternative*]

To: **[*insert complete name of Purchaser]***

We, the undersigned, hereby submit the second part of our Bid, the Bid Price Schedules. This accompanies the Letter of Bid - Technical Part.

In submitting our Bid, we make the following additional declarations

(a) **Bid Validity Period:** Our Bid shall be valid for the period specified in BDS ITB 19.1 (as amended if applicable) from the date fixed for the Bid submission deadline (specified in BDS ITB 23.1 (as amended if applicable), and it shall remain binding upon us and may be accepted at any time before the expiration of that period;

(b) **Total Price**: The total price of our Bid, excluding any discounts offered in item (c) below is: [Insert one of the options below as appropriate]

[Option 1, in case of one lot:] Total price is: [*insert the total price of the Bid in words and figures, indicating the various amounts and the respective currencies*];

Or

[Option 2, in case of multiple lots:] (a) Total price of each lot [*insert the total price of each lot in words and figures, indicating the various amounts and the respective currencies*]; and (b) Total price of all lots (sum of all lots) [*insert the total price of all lots in words and figures, indicating the various amounts and the respective currencies*];

(c) **Discounts:** The discounts offered and the methodology for their application are:

(i) The discounts offered are: [*Specify in detail each discount offered*]
(ii) The exact method of calculations to determine the net price after application of discounts is shown below: [*Specify in detail the method that shall be used to apply the discounts*];

(d) We also undertake that, in competing for (and, if the award is made to us, in executing) the above contract, we will strictly observe the laws against fraud and corruption in force in India on date namely "Prevention of Corruption Act 1988.";

(e) **Commissions, gratuities and fees:** We have paid, or will pay the following commissions, gratuities, or fees with respect to the Bidding process or execution of the Contract: [*insert complete name of each Recipient, its full address, the reason for which each commission or gratuity was paid and the amount and currency of each such commission or gratuity*].

Name of Recipient	Address	Reason	Amount

(If none has been paid or is to be paid, indicate "none.")

Name of the Bidder: *[*insert complete name of person signing the Bid*]

Name of the person duly authorized to sign the Bid on behalf of the Bidder: **[*insert complete name of person duly authorized to sign the Bid*]

Title of the person signing the Bid: [*insert complete title of the person signing the Bid*]

Signature of the person named above: [*insert signature of person whose name and capacity are shown above*]

Date signed [*insert date of signing*] **day of** [*insert month*], [*insert year*]

*****: In the case of the Bid submitted by joint venture specify the name of the Joint Venture as Bidder

**: Person signing the Bid shall have the power of attorney given by the Bidder to be attached with the Bid

Appendix to Financial Part: Price Schedules

Price Schedule Forms

Notes to Bidders on working with the Price Schedules

General

1. The Price Schedules are divided into separate Schedules as follows
   1.1. Grand Summary Cost Table
   1.2. Supply and Installation Cost Summary Table
   1.3. Recurrent Cost Summary Table
   1.4. Supply and Installation Cost Sub-Table(s)
   1.5. Recurrent Cost Sub-Tables(s)
   1.6. Country of Origin Code Table
2. The Schedules do not generally give a full description of the information technologies to be supplied, installed, and operationally accepted, or the Services to be performed under each item. However, it is assumed that Bidders shall have read the Technical Requirements and other sections of these bidding documents to ascertain the full scope of the requirements associated with each item prior to filling in the rates and prices. The quoted rates and prices shall be deemed to cover the full scope of these Technical Requirements, as well as overhead and profit.
3. If Bidders are unclear or uncertain as to the scope of any item, they shall seek clarification in accordance with the Instructions to Bidders in the bidding documents prior to submitting their bid.

Pricing

4. Entire Bid including the Letter of Bid – Technical Part, Letter of Bid – Financial Part and filled-up Price Schedules shall be submitted online on GoHP's e-procurement system portal under relevant section. **In addition to online submission of Letter of Bid – Financial Part and Price Schedule Forms, the Bidder shall enter only the Contract Price inclusive of GST in the online Financial Bid template provided on the GoHP's e-procurement portal.** Corrections if any in the bid can be carried out by editing the information before electronic submission on e-procurement portal. If specified in the Bid Data Sheet, prices shall be fixed and firm for the duration of the Contract.
5. Bid prices shall be quoted in the manner indicated and, in the currencies, specified in ITB 18.1 and ITB 18.2. Prices must correspond to items of the scope and quality defined in the Technical Requirements or elsewhere in these bidding documents.
6. The Bidder must exercise great care in preparing its calculations, since there is no opportunity to correct errors once the deadline for submission of bids has passed. A single error in specifying a unit price can therefore change a Bidder's overall total bid price substantially, make the bid noncompetitive, or subject the Bidder to possible loss. The Purchaser will correct any arithmetic error in accordance with the provisions of ITB 36.
7. Payments will be made to the Supplier in INR.

1.1. Grand Summary Cost Table

		Price (INR)
1.	Supply and Installation Costs (from Supply and Installation Cost Table)	
2.	Recurrent-Operation and Maintenance Costs (from Recurrent Cost Table)	
3.	**Total Contract Price inclusive of GST** (to Bid Submission Form in the GoHP's e-procurement portal)	

Name of Bidder:		
Authorized Signature of Bidder:		

Note: The Grand Summary Cost Table captured on the bidder's firm letterhead signed by authorized signatory to the bid SHOULD BE UPLOADED on e-procurement portal.

1.2. Supply and Installation Cost Table

Costs MUST reflect prices and rates quoted in accordance with ITB 17 and 18.

Item No.	Description of Goods and Services including Supply, Installation, Testing, and Commissioning (SITC) as per the need of the Project	UoM	Quantity	Make and Models to be Quoted by the Bidder	Unit Cost incl. GST (INR)	Total Cost incl. GST (INR)
I. Control Room						
A. Passive Components						
1.1.	Indoor Smart Racks- 42U (for DC)	Nos.	3	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
1.2.	Structured Cabling for Control Room	Lot	1	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
1.3.	42U Open Rack for Passive	Nos.	1	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
1.4.	DC Infrastructure (cooling, Fire, smoke detection, and suppression solutions)	Lot	1	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
1.5.	Raised Floor and DC Built	Lot	1	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
1.6.	Access Control System and Surveillance	Lot	1	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
B. Data Centre Core Infrastructure						
2.1.	LAN Switches Non-PoE	Nos.	2	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
2.2.	LAN Switches PoE	Nos.	3	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
2.3.	Transceiver- Multi Mode - 10 G	Nos.	20	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
2.4.	Core Switches	Nos.	2	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]

Item No.	Description of Goods and Services including Supply, Installation, Testing, and Commissioning (SITC) as per the need of the Project	UoM	Quantity	Make and Models to be Quoted by the Bidder	Unit Cost incl. GST (INR)	Total Cost incl. GST (INR)
2.5.	Data Center Leaf Switches	Nos.	2	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
2.6.	Virtualization Server	Nos	3	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
2.7.	Storage	Nos.	1	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
2.8.	Next Generation Firewall (NGFW) with WAF	Nos.	2	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
2.9.	Enterprise Anti-Virus and End-Point Security	Nos./ Users	40	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
2.10.	Enterprise Anti-Virus for Servers	Nos.	15	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
2.11.	Linux/Windows Operating Systems and Database as per Solution requirements	Lot	1	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
2.12.	Provision of structured cabling in the Data Centre for approx. 50 Nos. of Network Nodes	Lot	1	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
2.13.	Workstation	Nos.	5	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
2.14.	Desktop	Nos	35	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
2.15.	Video Wall (Control Room)	Nos.	1	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
2.16.	55" Display for SoC room	Nos	2	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]

Item No.	Description of Goods and Services including Supply, Installation, Testing, and Commissioning (SITC) as per the need of the Project	UoM	Quantity	Make and Models to be Quoted by the Bidder	Unit Cost incl. GST (INR)	Total Cost incl. GST (INR)
2.17.	Conference room solutions	Nos	1	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
2.18.	MF Printer	Nos	1	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
2.19.	Heavy Duty Printers	Nos	2	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
2.20.	Wi-Fi 6 AP	Nos	6	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
C. Software for Control Room						
3.1.	VMS Application	Lot	1	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
3.2.	Central application for Speed, ANPR, with E-Challan	Lot	1	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
3.3.	Web based central traffic management platform for DC with minimum 15 operator licenses.	Lot	1	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
3.4.	VMS Channel Licenses	Nos	200	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
3.5.	AI-based Video analytics License	Nos	350	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
3.6.	Integration with Vahan database of NIC	Lot	1	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
3.7.	NMS and Soc Applications	Lot	1	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
II. Field Components						
4.1.	Outdoor Rack for camera locations	Nos	214	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]

Item No.	Description of Goods and Services including Supply, Installation, Testing, and Commissioning (SITC) as per the need of the Project	UoM	Quantity	Make and Models to be Quoted by the Bidder	Unit Cost incl. GST (INR)	Total Cost incl. GST (INR)
4.2.	Field Firewall	Nos	214	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
4.3.	Industrial Grade Edge Switches	Nos	214	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
4.4.	Galvanized Traffic Signal Cantilever Poles and Its Civil Works	Nos	214	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
4.5.	ANPR Camera and software License	Nos.	400	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
4.6.	Fixed / Bullet Cameras for Surveillance	Nos.	132	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
4.7.	Radar	Nos.	73	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
4.8.	Construction of foundation for GI Poles as per the drawing and technical specifications	Nos.	214	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
4.9.	System Integration and Implementation of Cameras (including supply and installation of Passive & allied accessories)	Lot	1	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
4.10.	No Helmet Software module	Nos	258	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
4.11.	Triple Riding Software Module	Nos	258	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
4.12.	No Parking/Wrong way software module	Nos	258	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
4.13.	Speed Violation Sensor	Nos	146	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]

Item No.	Description of Goods and Services including Supply, Installation, Testing, and Commissioning (SITC) as per the need of the Project	UoM	Quantity	Make and Models to be Quoted by the Bidder	Unit Cost incl. GST (INR)	Total Cost incl. GST (INR)
4.14.	No Seat Belt and Wrong Way/Over taking	Nos	89	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
4.15.	Local Processing Unit	Nos	199	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
4.16.	IR Lights	Nos	400	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
III. Internet and Power						
5.1.	One-time installation charges of ISP, if any for Control Room and Field Locations	Lot	1	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
5.2.	Electricity Charges for installations for Control Room and Field locations	Lot	1	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
IV. Provision of Electrical Wiring, Conditioned Power and Chemical Earthing						
6.1.	Provision of electrical wiring as per the need of the Data Centre	Lot	1	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
6.2.	40 KVA Hot Swappable UPS	Set 1+1	1	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
6.3.	Supply and installation of Copper armoured power cables (3.5 cores, 2.5 sq. mm) between Aggregation and Edge Switches	Lot	1	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
6.4.	Supply and installation of MCCB, Electric Panels, PDUs, etc. for control room as per the standards and calculated loads	Lot	1	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]

Item No.	Description of Goods and Services including Supply, Installation, Testing, and Commissioning (SITC) as per the need of the Project	UoM	Quantity	Make and Models to be Quoted by the Bidder	Unit Cost incl. GST (INR)	Total Cost incl. GST (INR)
6.5.	Chemical Earthing to be done at Data Centre	Lot	1	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
6.6.	Genset and Electrical work	Lot	1	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
V. Civil and Infra works						
7.1.	Raised Floor and DC built	Lot	1	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
7.2.	Interior works for control room, datacenter	Lot	1	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
7.3.	Conference room Infra	Lot	1	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
7.4.	Payment collection Center Infra	Nos	4	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
VI. Payment collection Center						
8.1.	Firewall	Nos	4	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
8.2.	LAN Switch PoE	Nos	4	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
8.3.	Desktop	Nos	8	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
8.4.	Printer	Nos	4	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
8.5.	CCTV Surveillance	Lot	1	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
VII. Any other charges for fulfilling the solution						

Item No.	Description of Goods and Services including Supply, Installation, Testing, and Commissioning (SITC) as per the need of the Project	UoM	Quantity	Make and Models to be Quoted by the Bidder	Unit Cost incl. GST (INR)	Total Cost incl. GST (INR)
9.1.	Any other charges for fulfilling the solution	Lot	1	[To be quoted by Bidder]	[To be quoted by Bidder]	[To be quoted by Bidder]
Total Supply and Installation Cost inclusive of GST (INR) in figures						

Name of Bidder:		
Authorized Signature of Bidder:		

Note:

1. **20 locations require thermal cameras with high sensitivity, having the ability to detect temperature variations accurately even in adverse weather conditions (such as fog, rain, or snow), as per the functional requirements outlined in Section VII, G - Requirements for Field Hardware Components of the IRSES Subsystem.**
2. **The Supply and Installation Cost Summary Table captured on the bidder's firm letterhead signed by authorized signatory to the bid SHOULD BE UPLOADED on e-procurement portal.**

1.3 Recurrent Cost Table

Costs MUST reflect prices and rates quoted in accordance with ITB 17 and ITB 18.

		Maximum all-inclusive costs (for costs in *[INR]*)					
Component No.	Component	**Year 1** **Price incl. GST**	**Year 2** **Price incl. GST**	**Year 3** **Price incl. GST**	**Year 4** **Price incl. GST**	**Year 5** **Price incl. GST**	**Sub-total Price incl. GST** ***[INR]***
1.	Hardware Maintenance	Incl. in Warranty	Incl. in Warranty	Incl. in Warranty	Incl. in Warranty	Incl. in Warranty	
2.	Software Licenses & Updates	Incl. in Warranty	Incl. in Warranty	Incl. in Warranty	Incl. in Warranty	Incl. in Warranty	
2.1	System and General-Purpose Software	Incl. in Warranty	Incl. in Warranty	Incl. in Warranty	Incl. in Warranty	Incl. in Warranty	
2.2	Application, Standard and Custom Software	Incl. in Warranty	Incl. in Warranty	Incl. in Warranty	Incl. in Warranty	Incl. in Warranty	
3.	Technical and Operation Services						
3.1	Operations Manager (1 No.)						
3.2	Network Administrator (2 No.)						
3.3	System Administrator (2 No.)						
3.4	Road safety analyst (1 Nos)						
3.5	Data Entry Operator (15 Nos)						
3.7	Office Staff (3 Nos)						

		Maximum all-inclusive costs (for costs in *[INR]*)					
Component No.	Component	**Year 1** **Price incl. GST**	**Year 2** **Price incl. GST**	**Year 3** **Price incl. GST**	**Year 4** **Price incl. GST**	**Year 5** **Price incl. GST**	**Sub-total Price incl. GST** ***[INR]***
4.	Telecom/Internet cost • Dual Dedicated Leased line for control room • One wired for primary, and SIM based or wired Secondary links for field locations.						
5.	Electricity charges for control room and field locations						
6.	Any other charges for fulfilling the solution for the operations and maintenance for 5 years						
	Annual Subtotals:						- -
Cumulative Subtotal including GST (INR) in the Recurrent Cost Summary Table)							

Name of Bidder:		
Authorized Signature of Bidder:		

Note: The Recurrent Cost Table captured on the bidder's firm letterhead signed by authorized signatory to the bid SHOULD BE UPLOADED on e-procurement portal.

1.4 Country of Origin Code Table

Country of Origin	Country Code		Country of Origin	Country Code		Country of Origin	Country Code

1.4 Taxes and Duties

(See ITB Clauses 17.5 and ITB 17.7)

Item	Description of Taxes/ duties levies etc. (GST and other similar taxes and duties/ fees applicable at the time of invoicing)[1]	Rate of Taxes/ duties/ levies applicable (%)	Amount on which Taxes/duties/ levies applicable	Taxes/duties levies payable
1	2	3	4	5
Total in Figure:				
Total in words:				

Name of Bidder:		
Authorized Signature of Bidder:		

[1] Modify if required as per applicable taxes

Note: The Tax Computation Table captured on the bidder's firm letterhead signed by authorized signatory to the bid SHOULD BE UPLOADED on e-procurement portal.

Declaration Regarding Tax/Duty Exemption for Information Technology materials

(Name of the Project)

Bid No. ……

Description of item to be supplied ……

.....

(Information for issue of certificate for claiming Tax/Duty exemption. Government Order/ Circular Number under which tax/duty Exemption is being sought: ……)

(Bidder's Name and Address):

To

(Name of Purchaser)

…….

Dear Sir:

1. We confirm that we are solely responsible for obtaining tax/duty benefit which we have considered in our bid and in case of failure to receive such benefits for reasons whatsoever, the Purchaser will not compensate us.
2. We are furnishing below the information required by the Purchaser for issue of necessary certificate in terms of the Government of India's relevant Notifications.

(i) Value of import content of supply to be made by the Bidder: (Breakup of list of items to be imported with value attached)

* Rs. _____

(exchange rate on US$ = Rs. _____)

(ii) Name of the sub-contractor, if any, and whose name is to be included in the main Contract:

_____

_____

(iii) Description, quantity and value of the goods to be supplied by the above sub-contractor:

Description _____

Quantity

_____

Value (Rs.)

(iv)	Value of import content of supply to be made by the sub-contractor: (Breakup of list of items to be imported with value attached.)	Rs. _____ (exchange rate on US$ = Rs. _____)

(*The requirements listed above are as per Current notifications. These may be modified, as necessary, in terms of the rules in force*)

(Signature)_____

(Printed Name) _____

(Designation) _____

(Common Seal) _____

** Please attach details item-wise with cost, if there are more than one items.*

SECTION V - ELIGIBLE COUNTRIES

Eligibility for the Provision of Information System

In reference to ITB 4.8 and ITB 5.1, for the information of the Bidders, at the present time firms and information systems from the following countries are excluded from this bidding process:

Under ITB 4.8(a) and ITB 5.1: *[insert a list of the countries following approval by the Bank to apply the restriction or state "none"].*

Under ITB 4.8(b) and ITB 5.1: *[insert a list of the countries following approval by the Bank to apply the restriction or state "none"]*

SECTION VI - FRAUD AND CORRUPTION

(Section VI shall not be modified)

1. Purpose

1.1 The Bank's Anti-Corruption Guidelines and this annex apply with respect to procurement under Bank Investment Project Financing operations.

2. Requirements

2.1 The Bank requires that Borrowers (including beneficiaries of Bank financing); bidders (applicants/proposers), consultants, contractors and suppliers; any sub-contractors, sub-consultants, service providers or suppliers; any agents (whether declared or not); and any of their personnel, observe the highest standard of ethics during the procurement process, selection and contract execution of Bank-financed contracts, and refrain from Fraud and Corruption.

2.2 To this end, the Bank:

a. Defines, for the purposes of this provision, the terms set forth below as follows:

   i. "corrupt practice" is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;

   ii. "fraudulent practice" is any act or omission, including misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain financial or other benefit or to avoid an obligation;

   iii. "collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;

   iv. "coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;

   v. "obstructive practice" is:

      a) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive, or collusive practice; and/or threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or

      b) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under paragraph 2.2 e. below.

b. Rejects a proposal for award if the Bank determines that the firm or individual recommended for award, any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/ or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;

c. In addition to the legal remedies set out in the relevant Legal Agreement, may take other appropriate actions, including declaring misprocurement, if the Bank determines

at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement process, selection and/or execution of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;

d. Pursuant to the Bank's Anti-Corruption Guidelines, and in accordance with the Bank's prevailing sanctions policies and procedures, may sanction a firm or individual, either indefinitely or for a stated period of time, including by publicly declaring such firm or individual ineligible (i) to be awarded or otherwise benefit from a Bank-financed contract, financially or in any other manner;1 (ii) to be a nominated2 sub-contractor, consultant, manufacturer or supplier, or service provider of an otherwise eligible firm being awarded a Bank-financed contract; and (iii) to receive the proceeds of any loan made by the Bank or otherwise to participate further in the preparation or implementation of any Bank-financed project;

e. Requires that a clause be included in bidding/request for proposals documents and in contracts financed by a Bank loan, requiring (i) bidders (applicants/proposers), consultants, contractors, and suppliers, and their sub-contractors, sub-consultants, service providers, suppliers, agents personnel, permit the Bank to inspect3 all accounts, records and other documents relating to the procurement process, selection and/or contract execution, and to have them audited by auditors appointed by the Bank.

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1 For the avoidance of doubt, a sanctioned party's ineligibility to be awarded a contract shall include, without limitation, (i) applying for pre-qualification, expressing interest in a consultancy, and bidding, either directly or as a nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider, in respect of such contract, and (ii) entering into an addendum or amendment introducing a material modification to any existing contract.

2 A nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider (different names are used depending on the particular bidding document) is one which has been: (i) included by the bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower.

3 Inspections in this context usually are investigative (i.e., forensic) in nature. They involve fact-finding activities undertaken by the Bank or persons appointed by the Bank to address specific matters related to investigations/audits, such as evaluating the veracity of an allegation of possible Fraud and Corruption, through the appropriate mechanisms. Such activity includes but is not limited to: accessing and examining a firm's or individual's financial records and information, and making copies thereof as relevant; accessing and examining any other documents, data and information (whether in hard copy or electronic format) deemed relevant for the investigation/audit, and making copies thereof as relevant; interviewing staff and other relevant individuals; performing physical inspections and site visits; and obtaining third party verification of information.

PART 2 – PURCHASER'S REQUIREMENTS

SECTION VII - REQUIREMENTS OF THE INFORMATION SYSTEM

(INCLUDING, BACKGROUND AND INFORMATIONAL MATERIALS, TECHNICAL REQUIREMENTS, IMPLEMENTATION AND DELIVERABLE SCHEDULE, SYSTEM INVENTORY TABLES)

Notes on preparing the Requirements of the Information System

The Requirements of the IRSES Information System comprise four significant and closely related subsections:

- *Background and Informational Materials*
- *Technical Requirements*
- *Implementation timeline and Deliverable Schedule*
- *System Inventory Tables*

Background and Informational Materials

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Background and Informational Materials

A. BACKGROUND

1. The Purchaser

The Government of Himachal Pradesh is undertaking the "Himachal Pradesh State Roads Transformation Program" (HPSRTP) through the Himachal Pradesh Roads and Other Infrastructure Development Corporation Limited (HPRIDCL), with financial and technical assistance from the World Bank. The primary objective of this program is to enhance the efficiency of transportation and road safety institutions, and to develop a robust logistics system to support horticulture and overall economic growth within Himachal Pradesh. This initiative is in alignment with the Government of Himachal Pradesh's vision of transforming the state's transport infrastructure, with a focus on creating a network of safe, resilient, and high-standard transportation systems that facilitate sustainable and green growth.

HPRIDCL has engaged Road Safety Advisory Consultants (RSAC) to provide expert guidance and advice to ensure that the road safety-related objectives of the HPSRTP are met effectively.

The key objective of the proposed consulting services is to deliver technical advisory support to the Government of Himachal Pradesh, particularly in enhancing the technical and institutional capacity of the Himachal Pradesh Department of Transport (HPDOT) to manage the state-wide road safety agenda. Additionally, the consultant will assist the HPDOT in implementing multi-sectoral interventions along the designated safe demonstration corridors. These interventions will encompass areas such as enforcement, engineering measures, emergency services, community awareness, and the development of an institutional framework. Moreover, the consultant will support the Government of Himachal Pradesh in updating the State Road Safety Policy, in accordance with the provisions of the Motor Vehicles Act, 2019 (MVA Act 2019).0.2

2. Purchaser Requirements

One of the pivotal tasks entrusted to the Road Safety Advisory Consultants (RSAC) was to evaluate the existing gaps in road safety enforcement capabilities within the Himachal Pradesh Police and to provide strategic recommendations aimed at enhancing road safety enforcement across the State. The introduction of the Road Accident Data Management System (RADMS) has significantly improved crash reporting in Himachal Pradesh, surpassing standards in other regions of India.

RSAC's comprehensive analysis of crash data obtained from RADMS highlighted that 47% of the Killed and Seriously Injured (KSI) cases in the State occurred within three districts—Shimla, Kangra, and Mandi—over a specific period. As a result, these districts were selected as pilot regions for the implementation of multi-sectoral interventions.

To ensure evidence-based enforcement through digital means, the RSAC recommended the establishment of an "Integrated Road Safety Enforcement System (IRSES)." This system involves the installation of a field enforcement network comprising Artificial Intelligence (AI) cameras, Speed Enforcement Cameras, and Surveillance Cameras at strategic locations within the three pilot districts: Shimla, Kangra, and Mandi. Furthermore, a centralized Road Safety Enforcement Control Centre (RSECC) will be established in Shimla to oversee and manage these enforcement activities.

Each identified location will be equipped with a specific type of camera or a combination of cameras (AI/Speed/Surveillance), determined by the nature of prevalent violations at that particular site. This determination will be based on the expertise and experience of local police officers, the potential for challan generation, and other pertinent local factors.

3. Role of Enforcement on Road User Behavioral Factors

Numerous studies have consistently identified road user behavior as the primary contributing factor in the majority of road crashes. Experts globally recognize that aspects of road user behavior are the most significant risk factors for road fatalities and serious injuries. To enhance road safety and reduce the incidence of death and serious injuries, it is imperative for governments to intervene and educate road users, thereby encouraging behavioral improvements to avoid common and deliberate violations, such as:

- Speeding
- Not wearing seat belts
- Not wearing helmet while using 2 wheelers
- Alcohol and drugs impaired driving
- Use of mobile phones while driving
- Triple riding on 2 wheelers
- Hazardous stopping/ Parking
- Negligent/ Rash driving
- Red Light Violation
- Wrong parking of vehicle

It has been demonstrably shown that mitigating the impact of these risk factors is crucial to improving road safety. Road safety experts and researchers strongly recommend the strengthening of road usage laws by taking these factors into account and developing advanced methods for effective enforcement.

B. INFORMATION MATERIALS

1. Objective

'Traffic safety enforcement' is recognized as a crucial pillar in enhancing road user safety by regulating behavior to ensure compliance with road safety rules. The primary aim is to influence road user behavior through preventive, persuasive, and punitive measures to facilitate the safe and efficient movement of traffic.

Evidence-based enforcement, utilizing digital technologies, represents a modern and technologically advanced approach to enforcing traffic laws and regulations, including traffic violation management with limited resources and minimal human intervention. AI-enabled (Artificial Intelligence) modern surveillance cameras can be configured with various algorithms to monitor and communicate diverse traffic-related events effectively.

The objective of this Terms of Reference (ToR) is to outline the requirements for the design, supply, installation, testing, and commissioning of the Integrated Road Safety Enforcement System (IRSES), along with its operation, maintenance, and management for a period of 5 years.

2. Scope of Work for Integrated Road Safety Enforcement System (IRSES)

The scope of work broadly includes Design, supply, installation, testing and commissioning of the Integrated Road Safety Enforcement System (IRSES) and its Operation, Maintenance, and Management for 5 years. This includes a Road Safety Enforcement Control Centre (RSECC) in Shimla and field camera systems at different locations in Shimla, Kangra and Mandi districts.

3. Core activities.

a) Digital Evidence-Based Traffic Enforcement:

- Scope: Deploy advanced traffic enforcement systems at 164 locations across 3 pilot districts.
- Implementation: Utilize a combination of high-end cameras, radars, and AI-powered surveillance systems to ensure an uninterrupted and evidence-based approach to speed violation detection and other traffic offenses.

b) Vehicle Traffic Detection and City Surveillance:

- Scope: Establish a sophisticated traffic management and surveillance system at 50 key city locations/major junctions in the 3 pilot districts.
- Implementation: Implement a AI based vehicle traffic detection system designed to manage traffic flows efficiently and monitor traffic conditions effectively**.**

c) Centralized Road Safety Enforcement Control Centre (RSECC):

- Scope: Set up a centralized RSECC in Shimla, tasked with the operational, maintenance, and management responsibilities of the IRSES for a period of 5 years.

- Implementation: This central hub will be the focal point for coordinating the IRSES activities, ensuring the seamless integration and functioning of the various system components.

The comprehensive architecture of our project has been carefully crafted with a focus on integrating Artificial Intelligence (AI) into traffic enforcement and management systems. This innovative approach is central to the Intelligent Road Safety Enforcement System (IRSES) project. Our design strategy involves deploying Automatic Number Plate Recognition (ANPR) cameras across various enforcement locations. These cameras are not only pivotal in capturing traffic violations but also versatile in adapting to site-specific requirements and end-customer recommendations.

These enforcement scenarios range from monitoring speed violations, detecting riders without helmets, identifying triple riding on two-wheelers, and addressing improper parking and wrong-way entries. Additionally, the project extends its capabilities to broader traffic management use cases. This includes city-wide surveillance, comprehensive vehicle counting, detailed classifications, and the detection of vehicular incidents, amongst others.

What sets this project apart is the seamless integration of advanced technological solutions with human expertise. This holistic approach is instrumental in enhancing the effectiveness of traffic enforcement and monitoring procedures. The project places a strong emphasis on leveraging digital evidence for enforcement, ensuring direct involvement of law enforcement authorities, and establishing a centralized surveillance system in high-risk areas. By integrating sophisticated traffic management and monitoring systems, our project aims to establish a robust framework. This framework is dedicated to improving road safety and ensuring higher compliance with traffic regulations, thereby making a significant contribution to the domain of intelligent traffic management.

4. Key Components

a) AI-Enabled Enforcement and Surveillance:

- Utilization of Artificial Intelligence (AI) in traffic monitoring cameras and systems.
- Ability to autonomously detect and report traffic violations and incidents.
- Enhanced precision in capturing traffic data and reducing human error.

b) Automatic Number Plate Recognition (ANPR):

- Integration of ANPR technology for effective vehicle identification.
- Assists in tracking and managing traffic violations and vehicle movement.

c) Advanced Camera Systems:

- Deployment of high-resolution cameras with capabilities like zoom, tilt, and panoramic views.
- Night vision and weather-resistant features for uninterrupted operation in diverse conditions**.**

d) Real-Time Data Processing and Analysis:

- Immediate processing of traffic data for real-time response and decision-making.
- Utilization of deep learning algorithms for traffic pattern analysis and prediction.

e) ATCC (Advanced Traffic control centre) with Vehicle & Traffic Detection System (VTDS):

- Implementation of AI-driven analytics at key city entrance and exit points to classify traffic and count vehicle flow.
- This system aims to gather detailed insights on traffic patterns, aiding in better traffic management and planning.

f) City Surveillance:

- Extensive deployment of surveillance systems across the city, including four police district headquarters and a central control room.
- These surveillance measures are designed to provide a broad monitoring scope, enhancing city-wide security and facilitating real-time traffic assessment.

g) Centralized Control and Monitoring:

- A central control system to manage and monitor the entire network of traffic cameras and sensors.
- Facilitates coordinated responses and efficient management of traffic situations.

h) Scalable and Flexible Infrastructure:

- Designed for easy scalability to accommodate future expansions or upgrades.
- Flexible integration with existing traffic management and law enforcement systems.

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A. ACRONYMS USED IN THE TECHNICAL REQUIREMENTS

0.1 Acronym Table

	Term	Explanation
	bps	bits per second
	cps	characters per second
	DBMS	Database Management System
	DOS	Disk Operating System
	dpi	dots per inch
	Ethernet	IEEE 802.3 Standard LAN protocol
	GB	gigabyte
	Hz	Hertz (cycles per second)
	IEEE	Institute of Electrical and Electronics Engineers
	ISO	International Standards Organization
	KB	kilobyte
	kVA	Kilovolt ampere
	LAN	Local area network
	lpi	lines per inch
	lpm	lines per minute
	MB	megabyte
	MTBF	Mean time between failures
	NIC	Network interface card
	NOS	Network operating system
	ODBC	Open Database Connectivity
	OLE	Object Linking and Embedding
	OS	Operating system
	PCL	Printer Command Language
	ppm	pages per minute
	PS	PostScript -- Adobe page description language
	RAID	Redundant array of inexpensive disks
	RAM	Random access memory

	Term	Explanation
	RISC	Reduced instruction-set computer
	SCSI	Small Computer System Interface
	SNMP	Simple Network Management Protocol
	SQL	Structured Query Language
	SDWAN	Software Defined Wide Area Network
	TCP/IP	Transmission Control Protocol / Internet Protocol
	V	Volt
	VXLAN	Virtual Extensible Local Area Network
	WLAN	Wireless LAN

B. FUNCTIONAL, ARCHITECTURAL AND PERFORMANCE REQUIREMENTS

1.1 Legal and Regulatory Requirements to be met by the Information System

1.1.1 The Information System MUST comply with the following laws and regulations

1.1.1.1 The implementation of the Integrated Road Safety Enforcement System (IRSES) in Himachal Pradesh involves a comprehensive legal and regulatory framework to ensure compliance with national and state laws. The system's design, development, deployment, and operation must adhere to the following legal and regulatory requirements:

1. Compliance with Traffic Laws and Regulations

- **Motor Vehicles Act, 1988**: The system must be compliant with the Motor Vehicles Act and its subsequent amendments. This includes adherence to all traffic rules, penalties, and enforcement procedures as prescribed by the Act.
- **Central Motor Vehicles Rules, 1989**: The IRSES must ensure that all traffic violations detected and processed are consistent with the rules set forth by the Central Motor Vehicles Rules, including speed limits, helmet compliance, and seatbelt usage.

2. Data Protection and Privacy

- **Information Technology (IT) Act, 2000**: The IRSES must comply with the IT Act, particularly concerning the protection of personal data collected and processed by the system, including vehicle registration details and video footage.
- **Data Privacy Laws**: The system must ensure that all data collected, including images and vehicle details, are securely stored and accessed only by authorized personnel. Data encryption and access control mechanisms should be implemented to protect against unauthorized access and breaches.

3. Integration with National Databases

- **Integration with VAHAN and SARATHI Databases**: The system should be integrated with the VAHAN and SARATHI databases for accurate vehicle and driver information processing. This integration must be in line with the standards and protocols established by the Ministry of Road Transport and Highways (MoRTH).
- **Challan Processing and Enforcement**: The IRSES must ensure that challans are generated and processed in compliance with national guidelines, including the use of e-Challan systems and integration with existing government platforms for penalty and demerit point management.

4. Interoperability and Standardization

- **Compliance with National Standards**: The system must adhere to national standards for interoperability and data exchange, including those prescribed by the Bureau of Indian

Standards (BIS) and other relevant bodies. This includes compatibility with other smart city and traffic management systems.

- **Land Border Sharing Declaration**: The Declaration must be submitted regarding Restrictions on Procurement from Bidders from a country or countries, or a class of countries, as per Rule 144(xi) of the General Financial Rules 2017.
- **International Standards Compliance**: Where applicable, the system should comply with relevant international standards, such as those set by the International Organization for Standardization (ISO) for data management, security, and traffic enforcement technologies.

5. Environmental and Safety Regulations

- **Environmental Impact Assessment**: The deployment of the IRSES must consider environmental impacts, especially concerning the installation of cameras and sensors in ecologically sensitive areas. Compliance with environmental laws and regulations, including obtaining necessary clearances, is mandatory.
- **Health and Safety Regulations**: The system must ensure that all installations comply with health and safety regulations, minimizing risks to both operators and the public. This includes adherence to guidelines on electromagnetic emissions from electronic devices.

6. Legal Validity of Evidence

- **Admissibility of Digital Evidence**: The system must ensure that all digital evidence (e.g., images, video footage, and data records) collected is legally admissible in courts of law. This includes adherence to guidelines on the authenticity, integrity, and chain of custody of digital evidence as outlined in the Indian Evidence Act, 1872.
- **Documentation and Record-Keeping**: The system should maintain accurate and secure records of all traffic violations and related enforcement actions. This includes ensuring that all documentation is preserved in compliance with legal requirements for audit and review purposes.

7. Public Awareness and Communication

- **Public Notification and Signage**: The public must be informed about the deployment of the IRSES through adequate signage and public notifications. This is essential to ensure transparency and compliance with the legal requirements for traffic enforcement technologies.
- **Grievance Redressal Mechanism**: The system should include a mechanism for addressing public grievances related to traffic violations and enforcement actions. This mechanism should be accessible and compliant with legal standards for public interaction with government systems.

8. Regulatory Approvals and Oversight

- **Approval from Relevant Authorities**: The implementation of the IRSES must be approved by relevant state and central authorities, including the Department of Transport, Ministry of Home Affairs, and other regulatory bodies.

- **Regular Audits and Compliance Checks**: The system must be subject to regular audits and compliance checks by authorized regulatory bodies to ensure ongoing adherence to legal and regulatory requirements.

9. Third-Party Integration and Contracts

- **Compliance by Vendors and Contractors**: All vendors and contractors involved in the project must comply with the legal and regulatory requirements applicable to the IRSES. This includes compliance with contracts, data protection standards, and ethical guidelines.
- **Liability and Legal Recourse**: Contracts with third-party vendors should clearly outline liabilities, responsibilities, and legal recourse in case of non-compliance or failure to meet regulatory standards.

By adhering to these legal and regulatory requirements, the IRSES will ensure lawful, secure, and effective traffic enforcement, contributing to enhanced road safety and compliance across Himachal Pradesh.

1.2 Business Function Requirements to be met by the Information System

1.2.1 The Information System MUST support the following business functions.

1.2.1.1 The Integrated Road Safety Enforcement System (IRSES) is designed to revolutionize traffic enforcement and management in Himachal Pradesh by leveraging advanced Artificial Intelligence (AI) technologies and Automated Number Plate Recognition (ANPR) systems. To achieve its objectives, the Information System must support the following key business functions:

1. Traffic Violation Detection and Documentation

- **Functionality**: The system must automatically detect a wide range of traffic violations, including over-speeding, helmet non-compliance, triple riding on two-wheelers, illegal stopping/parking, unsafe overtaking, and the absence of seat belts. It should capture and document these violations with high accuracy, providing time-stamped images and video evidence for enforcement actions.

2. Automated Challan Generation and Processing

- **Functionality**: The system must support the automated generation of challans for traffic violations. This includes integrating with the VAHAN and SARATHI databases to retrieve vehicle and driver information and ensuring seamless processing of challans, including payment tracking, follow-up actions, and reporting.

3. Real-Time Monitoring and Surveillance

- **Functionality**: The system must enable real-time monitoring of traffic conditions and violations through a network of high-resolution cameras and sensors. This includes the ability to provide live feeds and alerts to traffic enforcement personnel and centralized control rooms, ensuring timely responses to violations and incidents.

4. Data Analysis and Reporting

- **Functionality**: The system must provide advanced data analysis and reporting capabilities. This includes generating insights from traffic patterns, violation trends, and enforcement outcomes. The system should support the creation of custom reports and dashboards for different user roles, aiding in decision-making and strategic planning.

5. Integration with Existing Traffic Management Systems

- **Functionality**: The system must integrate seamlessly with existing traffic management and smart city systems, including third-party GIS maps and other enforcement platforms. This ensures interoperability and enhances the overall effectiveness of the traffic management infrastructure.

6. Centralized Control and Administration

- **Functionality**: The system must provide a centralized dashboard for managing and administering the entire IRSES. This includes role-based access control, system health monitoring, and the ability to customize dashboard layouts based on user preferences. Centralized control also involves managing system configurations, user permissions, and data security protocols.

7. Public Engagement and Communication

- **Functionality**: The system must support public engagement by providing transparent communication regarding traffic enforcement activities. This includes public notifications, real-time updates on violations, and a grievance redressal mechanism for citizens to address concerns related to traffic enforcement.

8. Compliance with Legal and Regulatory Requirements

- **Functionality**: The system must ensure compliance with all relevant legal and regulatory requirements, including data protection laws, traffic regulations, and standards for digital evidence. This includes maintaining secure records of violations, supporting legal processes, and ensuring the admissibility of digital evidence in court.

9. Training and Capacity Building

- **Functionality**: The system must support training and capacity-building initiatives for traffic enforcement personnel. This includes providing access to training modules, real-time data for practice and analysis, and support for continuous learning to ensure that personnel are well-equipped to use the system effectively.

10. Sustainable Operation and Maintenance

- **Functionality**: The system must be designed for sustainable operation and maintenance over the long term. This includes providing robust support for preventive and corrective maintenance, ensuring system uptime, and implementing regular updates and enhancements to keep the system efficient and effective throughout its lifecycle.

  By supporting these business functions, the Information System will enable the IRSES to achieve its mission of enhancing road safety, improving traffic discipline, and ensuring compliance with traffic laws across Himachal Pradesh.

1.3 Architectural Requirements to be met by the Information System

1.3.1 The Information System MUST be supplied and configured to implement the following architecture.

1.3.1.1 Software Architecture:

The Integrated Road Safety Enforcement System (IRSES) is a sophisticated, AI driven platform designed to enhance traffic enforcement and management in Himachal Pradesh. The system leverages technologies such as Automatic Number Plate Recognition (ANPR), Speed Violation Detection (SVD), AI-based traffic analytics, and Video Management Software (VMS) to monitor, detect, and manage traffic violations in real-time. Below is a brief overview of the software technical architecture from a customer use case perspective.

Key Components of the Technical Architecture:

1. Front-End Interface (User Interaction Layer)

- **Users**: Traffic enforcement officers, administrators, operators, supervisors, and police personnel.
- **Functionality**:
  - The front-end provides a user-friendly interface for accessing real-time data, viewing live camera feeds, generating reports, and administering system settings.
  - Accessible via web browsers and mobile devices, allowing users to monitor and manage traffic enforcement activities from anywhere.
- **Technologies**:
  - Web technologies such as HTML, CSS, and JavaScript frameworks (e.g., Angular, React) for building responsive and interactive interfaces.
  - Mobile technologies for iOS and Android platforms for field operations and remote monitoring.
  - Secure authentication and role-based access control to ensure authorized use of the system.

2. Application Layer (Processing and Business Logic)

- **Components**:
  - **ANPR System**: Captures and processes vehicle number plates in real-time, integrates with SVD for speed violation detection, and provides data for traffic enforcement.
  - **Speed Violation Detection (SVD)**: Uses 4D radar sensors to detect vehicles exceeding speed limits and captures necessary details for enforcement.
  - **AI-Based Traffic Analytics**: Automatically detects traffic violations like helmet non-compliance, triple riding, wrong-way driving, and improper parking. Provides real-time alerts and data analysis.
  - **Video Management Software (VMS)**: Manages and records video feeds from connected cameras, supports advanced video analytics, and integrates with the central dashboard.

- **Traffic Violation Detection System (TVDS)**: Centralized system for monitoring, reporting, and managing all traffic enforcement activities. Includes role-based access control, customizable dashboards, and hierarchical data viewing.

- **Technologies**:
  - AI and machine learning frameworks (e.g., TensorFlow, PyTorch).
  - Real-time data processing engines (e.g., Apache Kafka, Apache Storm).
  - Integration frameworks (e.g., Spring Boot, Node.js for API services).
  - Video management platforms (e.g., Milestone Systems, Genetec, Vehant).

3. **Data Layer (Storage and Management)**
   - **Components**:
     - **Centralized Database**: Stores all data related to traffic violations, vehicle information, and user activities. Supports relational databases (e.g., MySQL, PostgreSQL) and NoSQL databases (e.g., MongoDB) for handling large volumes of unstructured data.
     - **Data Warehousing**: For historical data analysis and generating detailed reports over time. Utilizes data warehousing solutions like Amazon Redshift or Google BigQuery.
     - **Log Management**: Tracks user activities and system events, ensuring all actions are recorded for audit purposes. Employs tools like Elasticsearch, Logstash, and Kibana (ELK Stack) for log aggregation and analysis.
   - **Technologies**: SQL/NoSQL databases, data warehousing tools, log management systems.

4. **Integration Layer**
   - **Purpose**: Facilitates communication between various subsystems and external databases such as the VAHAN and SARATHI databases for vehicle and driver information, as well as e-Challan systems for traffic violations.
   - **Components**:
     - **API Gateway**: Manages API requests between subsystems and external services, ensuring secure and efficient data exchange.
     - **Middleware Services**: Handles the integration logic for connecting various subsystems within IRSES, including third-party systems like GIS maps and social media platforms.
   - **Technologies**: API Gateway (e.g., Kong, AWS API Gateway), Enterprise Service Bus (ESB), Middleware platforms (e.g., MuleSoft, IBM Integration Bus).

5. **Security Layer**
   - **Purpose**: Ensures data and infrastructure security across the entire system, protecting against unauthorized access, data breaches, and cyber threats.
   - **Components**:
     - **Encryption**: All data at rest and in transit is encrypted using industry-standard encryption protocols (e.g., AES-256, SSL/TLS).

- **Access Control**: Implements role-based access control (RBAC) with multi-factor authentication (MFA) to secure access to sensitive data and functionalities.
- **Firewalls and Intrusion Detection**: Monitors network traffic and system activities to detect and prevent malicious activities. Includes both hardware and software firewalls, along with intrusion detection systems (IDS).
- **Audit Logs**: Maintains detailed logs of all system activities, ensuring compliance with legal and regulatory requirements. Supports real-time monitoring and alerts.

- **Technologies**: SSL/TLS encryption, IAM systems, SIEM (Security Information and Event Management) tools.

6. Central Dashboard and Reporting Layer

- **Purpose**: Provides a centralized interface for monitoring, reporting, and managing traffic enforcement activities.
- **Components**:
  - **Customizable Dashboards**: Allows users to create and save personalized views of traffic data, violations, and system health metrics.
  - **Real-Time Alerts**: Displays notifications and alarms for violations and system issues, with integration to GIS maps for visual representation.
  - **Automated Reporting**: Generates reports on traffic violations, system performance, and SLA compliance, with options for scheduling and exporting reports in various formats.
- **Technologies**: Dashboard and data visualization tools (e.g., Grafana, Tableau), GIS mapping tools (e.g., Google Maps, ESRI ArcGIS).

7. Backend Services (Infrastructure Layer)

- **Purpose**: Provides the necessary computational resources and networking capabilities to support the IRSES.
- **Components**:
  - **Cloud/On-Premises Servers**: Hosts the application and database services, with support for horizontal scaling to accommodate increased load.
  - **High Availability and Failover**: Ensures the system remains operational in the event of hardware or software failures, with automated failover mechanisms.
  - **Network Infrastructure**: Supports secure and reliable communication between all components, using technologies such as VPNs, firewalls, and load balancers.
- **Technologies**: Cloud platforms (e.g., AWS, Azure, Google Cloud), virtualization technologies (e.g., VMware, Docker), networking tools (e.g., Cisco, Juniper).

Customer Use Case Perspective:

1. **Real-Time Traffic Violation Detection**:
   - Traffic enforcement officers monitor live camera feeds through the central dashboard, receiving real-time alerts for traffic violations detected by the ANPR and SVD systems. Violations like over-speeding, helmet non-compliance, and wrong-way driving are automatically captured, processed, and sent to the enforcement database.

2. **Automated eChallan Generation**:
    - Upon detection of a violation, the system cross-references vehicle and driver information from the VAHAN and SARATHI databases. An eChallan is automatically generated and sent to the vehicle owner's registered address or phone number, streamlining the enforcement process.
3. **Comprehensive Reporting and Analysis**:
    - Supervisors and administrators use the dashboard to generate detailed reports on traffic patterns, violation trends, and system performance. The system's AI-based analytics provide insights for strategic planning and improving road safety measures.
4. **Scalable and Secure Operation**:
    - As traffic enforcement needs grow, the system scales to accommodate additional cameras, sensors, and processing power. The architecture's robust security layer ensures that all data remains protected from unauthorized access and cyber threats.

    By adhering to this architecture, the IRSES ensures an efficient, scalable, and secure platform that meets the traffic enforcement needs of Himachal Pradesh, enhancing road safety and compliance through advanced technology.

1.3.1.2 Hardware and Network Architecture Overview for IRSES

The Integrated Road Safety Enforcement System (IRSES) is built upon a robust hardware and network architecture designed to ensure high availability, scalability, and security across all components. The architecture supports the integration of various traffic enforcement technologies, including ANPR cameras, radar systems, local processing units, and centralized data management, with seamless connectivity and real-time data processing capabilities.

Key Components:

1. Hardware Architecture

- **ANPR Cameras and IR Illuminators:**
    - High-resolution cameras with advanced image sensors and IR illuminators are deployed at strategic locations for accurate number plate recognition and traffic violation detection.
    - Cameras are designed to operate in various environmental conditions, with IP66/IP67-rated housings for durability.
    - ANPR cameras support multiple video streams, local storage, and advanced image processing capabilities, ensuring continuous operation even during network disruptions.
- **Local Processing Units (LPU):**
    - LPUs are equipped with Intel Core i7 processors, high-speed memory (DDR5), and multiple LAN interfaces for rapid data processing and transmission.
    - They manage real-time data from ANPR cameras and radar systems, performing initial analytics before transmitting data to central servers.
    - LPUs are housed in rugged enclosures to withstand extreme environmental conditions, ensuring reliable performance.
    - LPUs should have MIL-STD-810G certification with Shock & Vibration proof.
- **Radar Systems:**

- Radar units with a detection range of up to 300 meters and the ability to monitor multiple lanes simultaneously are integrated into the system.
- These units accurately measure vehicle speeds and detect traffic violations, providing data to LPUs for further processing.
- Radar should be same as proposed Software solution vendor and seamless integration with ANPR/SVDS/AI-/TVDS

- **Firewalls and Security Appliances:**
  - High-performance firewalls provide advanced threat protection, including intrusion prevention, application control, and SSL inspection.
  - The security appliances support centralized management and are configured for high availability in active/passive mode, ensuring continuous protection and monitoring of network traffic.
- **Industrial and Core Switches:**
  - Industrial-grade switches with PoE+ support and high port density facilitate the connection of ANPR cameras, LPUs, and other field devices.
  - Core switches in the data center support high bandwidth, low-latency connections, and advanced routing features, ensuring efficient data flow between all system components.
- **Virtualized Server Storage Platform (VSSP):**
  - The VSSP platform provides a scalable, resilient solution for data storage and processing, integrating compute, storage, and networking as integrated solution.
  - It supports advanced data management features, including inline de-duplication, compression, and snapshot capabilities, ensuring high data availability and performance.
- **Data Backup and Disaster Recovery:**
  - The system includes disk-to-disk backup devices with integrated de-duplication and cloud connectivity for secure, scalable data protection.
  - Backup solutions are configured to provide rapid recovery options and seamless integration with primary storage systems.

2. Network Architecture

- **LAN and WAN Connectivity:**
  - The system utilizes a mix of fiber and copper connections, with 1G, 10G, and 25G ports on switches to support high-speed data transfer between devices and the central data center.
  - WAN links are managed with SD-WAN technology, ensuring optimal path selection, redundancy, and minimal latency for critical traffic enforcement data.
- **Data Center Networking:**
  - Core switches in the data center connect all HCI nodes, storage devices, and backup systems, supporting high throughput and low-latency communication.
  - Leaf switches provide additional connectivity for expansion, with redundant power supplies and advanced management features to ensure continuous operation.

- **Security and Monitoring:**
    - The network is secured with firewalls and IPS systems at critical junctions, protecting against external threats and ensuring data integrity.
    - Centralized logging and monitoring tools provide real-time visibility into network performance, security events, and system health, enabling proactive management and rapid response to incidents.

1.4 Systems Administration and Management Functions Required for the IRSES

1.4.1 The Information System MUST provide for the following management, administration, and security features at the overall System level in an integrated fashion.

1.4.1.2 **Systems Administration, Implementation, Testing, and Handover Functions Required for the IRSES**

The Integrated Road Safety Enforcement System (IRSES) project requires a comprehensive approach to systems administration, implementation, testing, and handover to ensure its successful deployment, operation, and management over a five-year period. Below are the key functions that the selected vendor must fulfil, as outlined in the RFB:

1. Implementation

- **Planning and Preparation**: The vendor must develop a detailed implementation plan covering all aspects of the project, including timelines, resource allocation, risk management, and stakeholder communication.
- **Infrastructure Setup**: This includes the installation of all hardware components such as ANPR cameras, radar systems, local processing units, and network infrastructure at designated locations across Himachal Pradesh.
- **Software Installation and Configuration**: Deploy and configure all software components, including the Enterprise Management System (EMS), Network Management System (NMS), Video Management System (VMS), and other essential applications required for traffic enforcement and management.
- **Integration**: Ensure seamless integration of the IRSES with existing systems and databases, such as VAHAN, SARATHI, GIS mapping, and other relevant platforms. The system must also integrate with third-party tools and support APIs for future expansions.

2. Testing

- **Unit and System Testing**: Conduct thorough unit testing for each hardware and software component, followed by system testing to ensure all parts work together as expected.
- **Performance Testing**: Validate the system's performance under various conditions, ensuring that it meets the specified requirements for speed, accuracy, and reliability. This includes stress testing the network infrastructure and evaluating the responsiveness of real-time data processing.
- **Security Testing**: Perform security assessments to identify and mitigate vulnerabilities within the system. This includes testing for data encryption, access control, intrusion detection, and compliance with data protection regulations.

- **User Acceptance Testing (UAT)**: Collaborate with HPRIDCL and HP Police to conduct UAT, allowing end-users to test the system in real-world scenarios. Gather feedback and make necessary adjustments before final deployment.

3. Handover Process

- **Documentation**: Provide comprehensive documentation, including user manuals, technical specifications, configuration details, and troubleshooting guides. This ensures that HPRIDCL and HP Police have the necessary resources to operate and maintain the system.
- **Training and Knowledge Transfer**: Offer extensive training programs for HPRIDCL and HP Police personnel, covering all aspects of system operation, maintenance, and troubleshooting. Ensure that staff members are fully equipped to manage the IRSES independently.
- **Final Handover**: Conduct a formal handover process, transferring control of the system to HPRIDCL and HP Police. This includes verifying that all components are functioning correctly, all documentation has been provided, and all training sessions have been completed.
- **Post-Handover Support**: Provide ongoing support for a defined period post-handover to address any issues that arise during the initial operation phase. This ensures a smooth transition and helps build confidence in the new system.

4. IT Operations and Management Services

- **Monitoring and Troubleshooting**: Continuously monitor all systems, including hardware, operating systems, applications, and databases. Troubleshoot and resolve any issues, whether independently or with OEM support, while maintaining detailed logs of activities and SLA adherence.
- **Network Management**: Ensure that the network infrastructure remains operational according to SLA terms, managing both routine operations and unexpected incidents.
- **Backup and Disaster Recovery**: Manage backup services and ensure data integrity and availability through regular backups and disaster recovery procedures.

5. Hardware and Software Maintenance

- **Preventive and Corrective Maintenance**: Regularly perform maintenance on all IT and non-IT infrastructure to prevent downtime and ensure smooth operations. This includes firmware upgrades, patch management, and coordination with OEMs for warranty services.
- **Warranty and Support Services**: Oversee and enforce warranty agreements with OEMs, ensuring timely repairs and replacements as per SLA requirements. The vendor must manage support structures, including hardware support, spare parts logistics, and extended service offerings.

6. Facility Management

- **Control Room and Field Equipment Management**: Maintain all facilities, including control rooms, field cameras, and other related infrastructure. Ensure that all components are functioning correctly and that environmental conditions are optimal for equipment performance.

- **Coordination and Reporting**: Ensure proper coordination between the operational staff, HPRIDCL, and HP Police. The vendor must provide regular reports, including Root Cause Analysis (RCA) for any incidents, and ensure transparent communication across all stakeholders.

7. System Security and User Management

- **User Account Management**: Enforce security policies, including password management, account inactivity protocols, and login attempt restrictions. Ensure that all user activities are logged for forensic purposes.
- **Data Protection**: Safeguard personal and sensitive data captured by the system, ensuring compliance with relevant data protection regulations and using the data only for its intended purposes.

8. Training and Capacity Building

- **Comprehensive Training Programs**: Provide on-site and off-site training for HPRIDCL and HP Police personnel on system operations, configuration, and maintenance. The vendor must ensure that a sufficient number of staff members are fully trained to manage the system independently by the end of the contract period.
- **Ongoing Support**: Continue to offer training and technical support throughout the five-year service period, ensuring that all operational staff are capable of handling day-to-day tasks and any emergent issues.

9. Service Level Agreement (SLA) Compliance

- **SLA Monitoring**: The vendor must ensure all services meet the performance indicators defined in the SLA, including response times, resolution times, and system uptime. Regular audits and performance reviews should be conducted to maintain high standards of service delivery.

10. Enterprise Management Systems (EMS)

- **End-to-End IT Infrastructure Management**: Implement an EMS that provides a centralized platform for managing both IT and non-IT infrastructure. The system should include a service dependency engine, proactive monitoring, capacity planning, and seamless integration with third-party systems.
- **Advanced Reporting and Root-Cause Analysis**: The EMS should offer advanced reporting, a comprehensive dashboard, and tools for root-cause analysis. It should enable the archiving of performance data, event filtering, and correlation to minimize downtime.
- **Centralized Monitoring and Alerts**: The EMS should provide a unified console for monitoring equipment health, generating real-time alerts, and ensuring business continuity. The system must support multi-user administration, secure access, and integration with email/SMS notification systems.

11. Network Management System (NMS)

- **LAN and WLAN Monitoring**: The NMS should be capable of monitoring both wired and wireless networks, offering tools for planning, real-time monitoring, troubleshooting, and centralized updates. It must support policy creation, rogue device detection, and client troubleshooting tools.
- **Comprehensive Network Visibility**: The system should provide a clear view of network performance, user locations, and potential security threats, with features for automatic

device discovery, configuration management, and historical data playback for troubleshooting.

1.5 Performance Requirements of the Information System for IRSES

The Integrated Road Safety Enforcement System (IRSES) is expected to meet the following performance requirements to ensure reliable and efficient operation throughout its lifecycle:

1. Real-Time Processing

- **Traffic Violation Detection**: The system must detect and process traffic violations, such as speeding, helmet non-compliance, and wrong-way driving, in real-time with minimal latency.
- **Data Transmission**: ANPR cameras and other sensors must transmit data to the Local Processing Units (LPUs) and the central control room within milliseconds to enable immediate action.
- **Response Time**: The system should respond to queries and commands from the control room and field operators within 1 second to ensure timely decision-making and enforcement actions.

2. Scalability

- **System Expansion**: The system must be scalable to accommodate additional cameras, sensors, and processing units without significant performance degradation. This includes the ability to scale horizontally by adding more units as needed.
- **Data Volume**: The system should be able to handle increasing volumes of data as more enforcement points and cameras are added, ensuring continuous high performance without bottlenecks.

3. Accuracy and Reliability

- **Detection Accuracy**: The system must achieve high accuracy in detecting traffic violations, with a minimum accuracy rate of 98% for ANPR and other detection technologies. False positives should be minimized to less than 2% of all detections.
- **System Uptime**: The system must maintain a minimum uptime of 99.9%, ensuring that all components, including cameras, LPUs, and the central server, are operational at all times.
- **Data Integrity**: All captured data must be stored and transmitted securely without loss or corruption, maintaining the integrity of information from the point of capture to storage and analysis.

4. Throughput

- **Data Processing**: The system must be capable of processing and storing data from at least 100 ANPR cameras simultaneously, with the ability to handle up to 500,000 license plate reads per hour.
- **Challan Generation**: The system should support the generation of at least 10,000 e-challans per hour during peak operation times, ensuring that all detected violations are processed promptly.

5. Latency

- **End-to-End Latency**: The time from the detection of a violation to the issuance of an e-challan should not exceed 10 seconds under normal operating conditions.
- **Network Latency**: The network infrastructure must be optimized to ensure that latency between field devices and the central control room does not exceed 50 milliseconds.

6. Security

- **Data Security**: The system must encrypt all data transmissions using industry-standard encryption protocols (e.g., AES-256) to protect against unauthorized access and tampering.
- **Access Control**: The system should enforce strict access controls, including role-based access, to ensure that only authorized personnel can access sensitive data and system functions.
- **Incident Response**: The system should detect and respond to security incidents, such as unauthorized access attempts, within 5 seconds, triggering appropriate alerts and mitigation measures.

7. System Maintenance and Recovery

- **Maintenance Downtime**: Scheduled maintenance activities should not result in more than 2 hours of downtime per month. The system should support automated failover to minimize the impact of maintenance on operations.
- **Disaster Recovery**: The system must support a disaster recovery plan with the ability to restore full functionality within 4 hours after a critical failure or data loss event.

8. User Experience

- **User Interface Performance**: The system's user interfaces, including dashboards and reporting tools, must load within 3 seconds for standard queries and actions.
- **Customizable Dashboards**: Users should be able to create and customize dashboards that reflect real-time data, with updates and changes reflected within 2 seconds.

9. Environmental Resilience

- **Operational Conditions**: All field equipment, including cameras and LPUs, must operate reliably in the environmental conditions typical of Himachal Pradesh, including extreme temperatures, humidity, and weather conditions.
- **Durability**: The hardware must be robust, with a minimum operational lifespan of 5 years, including resistance to dust, water, and physical impacts.

Hardware & Software Solutions

I. Radar-Based Speed Violation Detection System (SVDS)

a) Overview of SVDS

The Speed Violation Detection System (SVDS) is a sophisticated solution specifically designed for monitoring and documenting over speeding vehicles in Indian traffic conditions. Operating autonomously 24/7, SVDS combines advanced radar technology with Automatic Number Plate Recognition (ANPR) cameras. Known as Capture Point Units (CPUs), these systems are placed strategically for effective multi-lane monitoring and are connected to a Central Control Room. The SVDS is a state-of-the-art, real-time 4D imaging radar system with HD technology, capable of functioning under various weather conditions without the need for frequent cleaning.

Key Components and Functionalities

1. **Speed Detection Technology:**
   - Utilizes Multi-Vehicle Tracking Radar sensors.
   - Capable of covering 4 lanes, expandable to 6 lanes.
   - Triggers cameras to capture number plates of over speeding vehicles.
2. **Imaging System:**
   - Equips roads with wide-angle cameras for full-lane coverage.
   - Utilizes two wide-angle shots per violation to track vehicle movement.
   - Features nighttime capture using high-power visible or infrared flash.
   - Captures both Retro and Non-retro type number plates.
3. **ANPR Module and Compliance:**
   - ANPR module for capturing and transmitting vehicle registration numbers to the IRSES backend.
   - Detect the speed of all vehicles using radar technology.
   - Extract license plate numbers in real-time using ANPR cameras.
   - Display recognized license plate numbers along with the detected speed of the vehicle.
   - Store each transaction in the database with complete details.
4. **Field System Components:**
   - Includes electronics for speed calculation, camera control, and control room communication.
   - Local storage (minimum 256 GB SSD per road) for data buffering.
   - Health monitoring systems for equipment maintenance.
   - Protection against environmental factors like lightning and voltage fluctuations.
5. **Real-Time Processing and Data Storage:**

   o Ensure that speed detection and license plate recognition occur online in real-time.

   o Maintain a robust database to store all violation transactions, including time-stamped images and vehicle speed.

Basic Requirements

- External IR Illuminator: Ensures clear night-time number plate capture, adhering to IEC-62471 standards for eye and skin safety.
- Vehicle Classification Capability: Classifies vehicles into categories (car, two-wheeler, heavy vehicle) and captures violations based on set speed limits.
- Multiple Infraction Capturing: Simultaneously captures multiple infracting vehicles in defined lanes with detailed infraction data.
- Software Integration: Integrates with RTO software for tracing ownership details and issuing notices.

Capture Capabilities

1. **Front or Back Side Capture:**
   - Ability to capture either front or back of vehicles under all lighting conditions.
2. **All Vehicle ANPR Capture System:**
   - Captures images and number plates of all vehicles.
   - Supports real-time alerts and post-incident analysis.

The SVDS is an essential tool in the IRSES project, designed to enhance traffic safety and law enforcement efficiency. Its ability to function in diverse environmental conditions and provide high-quality data for traffic violation analysis makes it a critical asset in the ongoing efforts to improve road safety and traffic discipline in India.

II. Automatic Number Plate Recognition system

a) Overview of ANPR System

The ANPR system, as a critical part of the Integrated Road Safety Enforcement System (IRSES), is designed for real-time vehicle information processing crucial to traffic monitoring and law enforcement. Its function extends to vehicle flow monitoring at strategic locations, with capabilities for vehicle detection, number plate reading, database referencing, and alert triggering based on vehicle status, all securely managed via password authentication.

b) System Requirements and Detections

1. **ANPR Technology:**
   - Incorporates fast shutter technology to capture vehicles at high speeds (up to 200 km/h) without blur.
   - Ensures a sufficient frame rate for capturing all traffic violations and extensive ANPR data.
2. **Day and Night Operation:**
   - Operates effectively both in daylight and night, independent of ambient lighting conditions.
   - Integrates with high-power infrared systems to enhance night-time captures.
   - Utilizes an external IR illuminator for accurate night-time number plate detection.
3. **Number Plate Type Capture:**

- Capable of capturing both "Retro-reflective" and "Non-reflective" number plates, which are common in India.

4. **ANPR Accuracy:**
   - Aims for high recognition accuracy (around 90%) with minimal character errors.
5. **Vehicle Image Quality:**
   - Captures high-quality vehicle images (at least 5 MP per lane) for detailed post-incident analysis.
6. **Video Streaming and Data Storage:**
   - Offers optional real-time streaming to the control room, with a critical all-vehicle capture mode.
   - Facilitates easy access to captured data for control room analysis and review.
7. **Law Enforcement Integration:**
   - Allows input of specific license plates for monitoring based on categories like “Wanted”, “Suspicious”, “Stolen”.
   - Capable of generating automatic alarms for prompt control room action upon detection of hot listed vehicles.
8. **Vehicle Classification:**
   - Classifies vehicles into categories such as 2-wheelers, 3-wheelers/Autos, LMVs, HMVs.
   - Provides options for historical record searches by vehicle color, license plate, and date/time.
   - Includes the capability for vehicle make detection through logo recognition.
9. **Coverage and Detection Zone:**
   - Covers road widths from 3.5 to 10.5 meters or more.
   - Effective detection zone ranges from 25 to 30 meters.
10. **Compliance with Specifications:**
    - Strict adherence to the technical specifications provided in the RFB.
    - Requirement for bids to propose fully compliant products.

The implementation of the ANPR system within IRSES is set to revolutionize traffic monitoring, law enforcement, and safety efficiency. Designed to function optimally in various environmental conditions, it aims to deliver precise, high-quality data essential for traffic violation analysis and enforcement actions. The compliance with detailed specifications is imperative to ensure the system’s effectiveness and reliability

III. AI-Based Vehicular/Traffic Analytics System in IRSES

c) Overview of AI-Based Traffic Analytics

The AI-Based Traffic Enforcement Analytics is a key component of the Integrated Road Safety Enforcement System (IRSES). This innovative system is engineered to automatically detect and document various traffic offenses, playing a vital role in enhancing road safety through adherence to traffic laws.

Analyzing data from IRSES can yield valuable insights into various aspects of traffic management, law enforcement, and road safety. Here are some potential analytics that can be derived from the data

- Traffic Violation Patterns & enforcement effectiveness
- Traffic flow and congestion analysis
- User behavioral analysis
- Vehicle parking analysis and usage pattern
- Road safety vulnerability and accident probability
- Predictive analytics to forecast future traffic patterns, congestion, and enforcement needs.

This analysis can help evaluate the overall effectiveness of traffic management and enforcement efforts over time.

IV. Helmet Absence Violation Detection (HAVD) System

In the realm of traffic safety enforcement, the Helmet Absence Violation Detection (HAVD) System stands out as a pivotal innovation. This system is expertly designed to enhance road safety for two-wheeler users. At its core, the HAVD system functions to identify riders and passengers of two-wheelers who are not wearing helmets, a critical safety violation.

Detection and Identification

1. **Key Function - Helmet Usage Detection:**
   - **Requirement:** Identify helmet usage among two-wheeler riders and passengers.
   - **Functionality:** The HAVD system must detect two-wheelers and determine whether the riders and passengers are complying with helmet laws, aiming to enhance road safety and reduce fatalities.
2. **Discrimination Technology:**
   - **Requirement:** Distinguish between actual helmets and other headwear.
   - **Functionality:** The system should employ advanced technology to differentiate helmets from caps, turbans, construction helmets, etc., to prevent false violations and enhance accuracy.

System Operation and Autonomy

3. **Autonomous System Operation:**
   - **Requirement:** Operate independently without manual intervention.
   - **Functionality:** Upon detecting a two-wheeler, the system autonomously evaluates helmet compliance and activates ANPR when a violation is detected. It should capture clear images of the two-wheeler with a focus on legible number plate imagery.
4. **ANPR Integration for Enforcement:**
   - **Requirement:** Incorporate Automatic Number Plate Recognition technology.
   - **Functionality:** The HAVD system should use ANPR to facilitate the identification of violators, capturing and transmitting number plate data for enforcement actions.
5. **Continuous Monitoring:**
   - **Requirement:** Persistent and uninterrupted surveillance capability.

- **Functionality:** The system should continuously monitor traffic, identify helmet violations, and process data independently, ensuring constant enforcement of helmet usage laws.

The Helmet Absence Violation Detection System is a testament to the integration of technology in enhancing road safety. Its specialized focus on helmet compliance addresses a critical area of concern in two-wheeler safety. By automating the detection process and ensuring accurate discrimination between different types of headgear, the HAVD system represents a significant step forward in the endeavor to make roads safer for everyone.

V. Wrong-Way Driving Detection System (WDDS)

The Wrong-Way Driving Detection System (WDDS) is an integral part of modern traffic management and safety, designed to tackle the critical issue of vehicles traveling in the wrong direction on roadways. This innovative system combines advanced video-based technology with Automatic Number Plate Recognition (ANPR), playing a crucial role in enhancing road safety and preventing potential accidents caused by wrong-way driving.

Detection and Identification

1. **Primary Function - Wrong-Way Vehicle Detection:**
   - **Requirement:** Detect vehicles traveling in the wrong direction within traffic lanes.
   - **Functionality:** The system should continuously monitor lanes for wrong-way movement and identify such violations, considering it a critical safety hazard.
2. **Technology Integration - ANPR System:**
   - **Requirement:** Seamlessly integrate with Automatic Number Plate Recognition (ANPR) technology.
   - **Functionality:** Alongside detecting wrong-way driving, the system should capture the number plates of violating vehicles, facilitating easy identification and enforcement actions by authorities.
3. **Flexible System Design:**
   - **Requirement:** Design flexibility to operate both as a standalone unit or as an integrated module.
   - **Functionality:** The WDDS should be capable of functioning independently in areas without existing traffic infrastructure or as an enhancement to current systems, offering versatility in deployment.
4. **Operational Efficiency - Reliable Performance:**
   - **Requirement:** Maintain consistent operation across diverse environmental conditions.
   - **Functionality:** Ensure operational integrity during day and night and in various weather conditions (clear, foggy, etc.), addressing the risk of wrong-way driving under all circumstances.

The implementation of the Wrong-Way Driving Detection System represents a significant stride in the field of traffic safety and management. By accurately detecting and documenting instances of wrong-way driving, and doing so reliably under various environmental conditions, the WDDS stands as an effective tool in the ongoing effort to enhance road safety. Its adaptability to

function either independently or alongside proposed systems makes it a versatile solution for a wide range of traffic enforcement scenarios based on the technical and functional requirement.

VI. Triple Riding Violation Detection (TRVD)

The Triple Riding Violation Detection (TRVD) system is a pivotal advancement in traffic law enforcement, specifically designed to address the safety hazards associated with triple riding on two-wheelers. In many regions, triple riding is a common yet dangerous practice that significantly increases the risk of accidents. The TRVD system is a crucial tool in identifying and curbing this violation, thereby enhancing road safety.

Detection and Identification

1. **Triple Riding Detection:**
   - **Requirement:** Accurately identify instances of triple riding on a two-wheeler.
   - **Function:** The system must detect and confirm the presence of more than two individuals on a single two-wheeler, flagging it as a traffic violation.

Technology and Algorithms

2. **Utilization of ANPR and Deep Learning:**
   - **Requirement**: Incorporate Automatic Number Plate Recognition (ANPR) cameras.
   - **Function:** Use ANPR cameras in conjunction with deep learning algorithms to ensure precise and accurate detection of triple riding incidents.

System Integration and Data Management

3. **Seamless System Integration:**
   - **Requirement:** Integrate with the proposed broader road safety enforcement system.
   - **Function:** The TRVD system should seamlessly blend into the proposed traffic monitoring infrastructure without disrupting current operations.
4. **Real-Time Data Transmission:**
   - **Requirement:** Capability for immediate data transmission upon violation detection.
   - **Function:** Upon identifying a triple riding incident, the system must instantly transmit relevant data (including violation details, time, and location) to the central enforcement system.

Operational Efficiency

5. **Efficient Operation in Diverse Conditions:**
   - **Requirement:** Function effectively under various environmental and lighting conditions.
   - **Function:** The system should be capable of identifying triple riding violations regardless of time of day and weather conditions, ensuring consistent operational efficiency.

Data Accuracy and Reporting

6. **High Accuracy in Violation Reporting:**
   - **Requirement:** Minimize false positives and ensure accurate reporting.

- **Function:** Implement advanced algorithms to accurately differentiate between triple riding and other scenarios, thus ensuring reliable violation reporting.

7. **Automated Alert System:**
   - **Requirement:** Instant alert generation for identified violations.
   - **Function:** System must have the capability to generate automated alerts to the control center for immediate action on detected violations.

The incorporation of the Triple Riding Violation Detection system within the scope of traffic enforcement represents a significant step in enhancing road safety. By leveraging advanced technologies like ANPR cameras and deep learning, the TRVD system ensures accurate identification of triple riding offenses, contributing to safer roads and more effective traffic law enforcement. Its ability to integrate with broader systems and provide real-time data makes it an invaluable asset in the ongoing efforts to improve road safety and compliance.

VII. Illegal/Wrong Parking Detection

The Illegal/Wrong Parking Detection system is adept at pinpointing vehicles violating parking norms. By using advanced imaging technology, it can detect vehicles parked in no-parking zones, on sidewalks, or in other restricted areas without physically intruding into the space. This system is essential in maintaining order and accessibility in congested urban areas. The system will be strategically placed at congested junctions and critical traffic points. These locations are often hotspots for illegal parking, and the system's presence there ensures comprehensive coverage and effective enforcement. Its ability to capture multiple violation images from different angles aids in reducing parking-related congestion and enhances the efficiency of traffic flow management.

Detection and Identification

- **Requirement:** Installation in high-traffic and congestion-prone areas.
- **Requirement:** The system is required to identify vehicles parked illegally or in restricted zones.
- **Function:** Upon identifying a wrong parking, the system must instantly transmit relevant data (including violation details, time, and location) to the central enforcement system.

Non-Seatbelt Wearing Detection

The Non-Seatbelt Wearing Detection system employs sophisticated sensors and cameras to identify whether drivers and co-passengers are wearing seatbelts. This system plays a crucial role in enforcing seatbelt laws, which are fundamental for road safety. By detecting non-compliance, it contributes to reducing the risks of injuries in road accidents. Designed to be robust and adaptive, the system functions effectively under a range of conditions – whether it's bright sunlight, night, or inclement weather. This operational flexibility ensures that seatbelt compliance is consistently monitored and enforced, regardless of external factors. The system's resilience makes it a reliable component in the overarching road safety infrastructure.

Detection and Identification

- **Requirement:** Detect seatbelt compliance among drivers and co-passengers in Light Motor Vehicles (LMVs) and Heavy Motor Vehicles (HMVs).
- Requirement: The system should be operational in various environmental conditions.
- **Function:** Upon identifying a absence of seat belt for driver and co-passenger (if applicable), the system must instantly transmit relevant data (including violation details, time, and location) to the central enforcement system.

By utilizing advanced technologies, these systems address key areas of road safety and traffic regulation compliance, playing a vital role in creating safer and more organized urban traffic environments in IRSES project.

VIII. ATCC with Vehicle & Traffic Detection System (VTDS)

The Vehicle & Traffic Detection System (VTDS) is a key traffic management component of the Integrated Road Safety Enforcement System (IRSES) project, specifically designed for deployment on urban roads in Himachal Pradesh. This system is engineered to enhance traffic management and safety by delivering critical insights into traffic patterns and vehicle flow.

The VTDS, when integrated with the Automated Traffic Control Camera (ATCC) system, provides a robust solution for monitoring and managing road traffic. By utilizing advanced detection technologies, including radar, video analytics, and sensors, VTDS enables real-time monitoring of traffic conditions, detection of violations, and collection of data essential for informed traffic management decisions.

The implementation of VTDS within the IRSES project is aimed at improving road safety, reducing traffic congestion, and ensuring efficient traffic movement across the state's urban areas. This system not only supports the enforcement of traffic laws through automated detection and evidence collection but also contributes to strategic traffic planning and road safety enhancements.

Solution Requirements and Objectives

1. **Strategic Deployment:**
    - **Requirement:** Install VTDS at key locations such as city entry and exit points and major intersections.
    - **Objective:** To effectively collect comprehensive traffic data at critical points in the city.
2. **Technology Utilization:**
    - **Requirement:** Use video-based, non-intrusive technology for real-time traffic data collection.
    - **Objective:** To count and classify vehicles accurately under live traffic conditions without disrupting the flow.
3. **Field of View and Lane Coverage:**
    - **Requirement:** Ensure the VTDS sensor's field of view covers the entire width of the traffic lane.
    - **Objective:** To provide end-to-end lane coverage, capturing data for all vehicles across multiple lanes.
4. **Multi-functional Capability:**
    - **Requirement:** Equip VTDS sensors with the capability for general surveillance and evidence capturing.

- **Objective:** To utilize the system for diverse purposes, including general road surveillance and capturing evidence for Red Light Violation Detection (RLVD).

5. **Vehicle Classification Levels:**
   - **Requirement:** Classify vehicles into at least six categories.
   - **Objective:** To ensure detailed traffic analysis and categorization, including 2-wheelers, 3-wheelers, E-Rickshaws, SCVs, LMVs, and HMVs.
6. **Special Vehicle Detection:**
   - **Requirement:** Identify emergency vehicles and VIP convoys.
   - **Objective:** To facilitate efficient traffic management, such as providing green corridors for emergency vehicles.
7. **Accuracy Standards:**
   - **Requirement:** Achieve high accuracy in vehicle counting and classification.
   - **Objective:** To maintain a counting accuracy of over 90% and classification accuracy of over 80% in various conditions, including day, night, fog, and poor visibility.
8. **AI-Driven Traffic Analytics:**
   - **Requirement:** Implement AI algorithms for traffic classification and vehicle flow analysis.
   - **Objective:** To offer detailed insights into traffic patterns, assisting in effective traffic management and planning strategies.

The VTDS within the IRSES project stands as a cornerstone technology for enhancing road safety and traffic efficiency in Himachal Pradesh. By harnessing advanced, non-intrusive video analytics and AI-driven data analysis, VTDS is poised to offer significant improvements in traffic monitoring, classification, and management, supporting the broader goals of IRSES in fostering a safer and more organized traffic environment.

IX. City Surveillance:

City Surveillance is a crucial component of the Integrated Road Safety Enforcement System (IRSES) project, focusing on enhancing law enforcement, public safety, and traffic management. The solution involves a comprehensive surveillance system with centralized monitoring and data recording facilities to effectively manage and monitor traffic flow and ensure citizen safety in key areas.

Solution Requirements and Objectives

1. **Central Monitoring and Recording:**
   - **Requirement:** Establish a central monitoring desk in the control room.
   - **Objective:** To facilitate effective traffic flow monitoring and citizen surveillance across major junctions or hotspots, with recorded data kept centrally for up to 90 days.
2. **Surveillance System Deployment:**
   - **Requirement:** Extensively deploy surveillance systems across the city.
   - **Objective:** To cover all critical areas, including four police district headquarters, with an aim to enhance city-wide security and traffic management.

3. **Real-Time Traffic Assessment:**
   - **Requirement:** Equip the system with real-time traffic assessment capabilities.
   - **Objective:** To provide immediate insights into traffic conditions, aiding in quick decision-making and response during traffic-related incidents or emergencies.
4. **Monitoring Facilities at Police Districts:**
   - **Requirement:** Implement monitoring facilities at police district headquarters and designated locations.
   - **Objective:** To decentralize traffic surveillance management, allowing district-level authorities to efficiently monitor and respond to local traffic situations and public safety concerns.
5. **Data Accessibility and Storage:**
   - **Requirement:** Ensure secure data storage and easy accessibility for law enforcement.
   - **Objective:** To maintain a reliable record of surveillance data that can be accessed by authorized personnel for law enforcement, investigation, and traffic management purposes.
6. **Integration with Existing Systems:**
   - **Requirement:** Compatibility and integration with existing traffic management and public safety systems.
   - **Objective:** To create a cohesive and comprehensive surveillance network that supports existing infrastructure and maximizes operational efficiency.

The City Surveillance component within the IRSES project is designed to provide an extensive monitoring network, bolstering traffic management and public safety. Through strategic placement and integration of surveillance systems, along with real-time monitoring capabilities and centralized data management, the solution aims to enhance city-wide security, streamline traffic operations, and support efficient law enforcement activities. The combination of centralized control and localized monitoring facilities offers a balanced approach to managing city surveillance and traffic monitoring needs.

X. E-Challan Processing Application

The Control Centre Software is designed as an integral part of the Intelligent Road Safety and Enforcement System (IRSES) project. It encompasses a wide range of functions focused on traffic violation processing, data integration, and workflow management. The software must be adaptable, scalable, and compatible with a variety of hardware and systems.

उत्तर प्रदेश पुलिस - यातायात निदेशालय
नोटिस
(अन्तर्गत धारा 133 मोटर वाहन अधिनियम 1988)

सेवा में,
MANJEET SINGH
SALUJA

NO IMAGE AVAILABLE

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वाहन संख्या:	UP32HN3424	इंजन संख्या:	.....
वाहन अवधि	.....	चेसिस संख्या:	.....
वाहन श्रेणी:	Motor Cab(LPV)	वाहन स्वामी का नाम:	MANJEET SINGH SALUJA
वाहन पंजीयन की वैधता अवधि:	.....	वाहन स्वामी के पिता का नाम:	AMRIT PAL SINGH
वाहन स्वामी का मोबाइल:	7309825648	वाहन स्वामी का पता:	386 MEHNDI HASAN KA HATA , SUBHASH MOHAL SADAR,BAZAR DILKUSHA, Lucknow -226002

यातायात नियमों के उल्लंघन का विवरण

चालान संख्या: UP64476201209112268

तिथि / समय	स्थान	उल्लंघन का विवरण	शमन शुल्क (रु.)
09-12-2020 11:22:58	Basti - Lucknow Rd, Chinhat, Lucknow, Uttar Pradesh 226010, India	1: violation of parking rules. (MV act 1988 S 122,126 R/W 177)	500/-

उपलब्ध अभिलेखों में उक्त वाहन का स्वामित्व आपको प्रदर्शित है । अत:एव इस नोटिस के माध्यम से वाहन द्वारा किये गए यातायात नियमों के उल्लंघन का विवरण मय साक्ष्य इस आशय से प्रेषित है कि यातायात नियमों के उल्लंघन सम्बंधित आरोपों की स्वीकारोक्ति की दशा में निर्धारित शमन प्रक्रिया का अनुसरण कर 3 दिन के अन्दर शमन कराये । अन्यथा प्रकरण सक्षम न्यायालय के समक्ष संज्ञानार्थ प्रस्तुत कर दिया जाएगा।

शमन शुल्क का भुगतान आप इन माध्यमों द्वारा कर सकते हैं -
1 ऑनलाइन: https://echallan.parivahan.gov.in/index/accused-challan
2 स्थानीय भुगतान केन्द्र: ACP, Traffic Police Office,Daliganj, Lucknow , Pincode - 226020 , Helpline no - 9454405166

This document is an example which is served to lawbreakers as part of IRSES project and its typically serves as a penalty notice issued to a vehicle owner for violating traffic rules, as captured by traffic enforcement cameras, and processed by traffic management authorities.

The notice has important details like the car's number, make of the car, and owner details. It also indicates which rule was violated, time of occurrence and the fine imposed. There will be a link for paying the fine online and a phone number for help. This system makes it easier to handle traffic tickets and helps to keep the roads safe.

Key Functionalities and Design Specifications

1. **Violation Data Download:**
    - **Functionality:** Automated download and processing of offense data from field units.
    - **Design Requirement:** Incorporate scheduled data retrieval and ANPR technology for extracting vehicle numbers, with operator review and correction capabilities.
2. **Vehicle Owner Database Integration:**
    - **Functionality:** Seamless interface with VAHAN or motor vehicle databases.

- **Design Requirement:** Develop a secure and efficient data retrieval system for obtaining vehicle owner information using registration numbers.

3. **Offense Processing Workflow:**
   - **Functionality:** Streamline the processing of challans with role-based access.
   - **Design Requirement:** Create a workflow management system with distinct roles and functions, enabling efficient movement and categorization of challans.
4. **Challan Approval and Management:**
   - **Functionality:** Secure approval process for challans with officer authentication.
   - **Design Requirement:** Implement a secure login mechanism, providing officers the ability to review, approve, reject, and categorize challans.
5. **Challan Issuance:**
   - **Functionality:** Print and issue authorized challans, with digital distribution options.
   - **Design Requirement:** Enable multi-channel challan distribution including printing, email, and post, with database updates for issued challans.
6. **Payment Management Integration:**
   - **Functionality:** Facilitate integration with Payment Management Software/Server.
   - **Design Requirement:** Ensure smooth data transfer to payment systems for collection processing.
7. **Surveillance System Integration and Management:**
   - **Functionality:** Integrate and manage data from various surveillance components.
   - **Design Requirement:** Develop a comprehensive platform to work with ITMS, VMS, and VTDS systems, providing a centralized dashboard for statistics and reports.
8. **Hardware Compatibility and Modularity:**
   - **Functionality:** Operate seamlessly on various hardware infrastructures.
   - **Design Requirement:** Design software with a modular, transparent, and open architecture, compatible with a wide range of hardware.
9. **Flexible Application Deployment:**
   - **Functionality:** Adapt to deployment changes and application needs.
   - **Design Requirement:** Support flexible deployment of applications on video sources, allowing for the addition of new cameras and hardware resources as needed.
10. **Architectural Clarity:**
    - **Functionality:** Demonstrate a clear technology stack and data governance.
    - **Design Requirement:** Present a layered architecture showing the core OS, data governance, and interfaces for various applications.

In essence, the Control Centre Software for the IRSES project is envisioned as a dynamic, robust, and user-friendly system. It is designed to handle complex data processing tasks, integrate with

various databases and surveillance systems, and adapt to the evolving needs of traffic enforcement and management. The software will play a critical role in enhancing the efficiency and effectiveness of the IRSES project's operational capabilities.

XI. Video Management Software VMS

The Video Management Software (VMS) application for the IRSES control room is conceptualized as an advanced, scalable, and highly compliant system. Designed to manage a large network of surveillance cameras, it aims to provide comprehensive video surveillance capabilities that are essential for traffic monitoring and enforcement.

Key Functionalities and Design Specifications

1. **Scalability and Capacity:**
    - **Functionality:** Manage a large-scale surveillance network.
    - **Design Requirement:** The VMS should be capable of handling at least 5000 cameras, with the ability to expand by adding additional camera licenses and servers as required.
2. **ONVIF Compliance:**
    - **Functionality:** Ensure interoperability with various camera and network equipment.
    - **Design Requirement:** The VMS must comply with ONVIF Profiles S, G, T, and M. A Declaration of Conformance dated no older than January 1, 2023, must be available on the official ONVIF website (www.onvif.org) and submitted as proof of compliance.
3. **Video Recording Standards:**
    - **Functionality:** Capture and record high-definition video footage.
    - **Design Requirement:** The system should support video recording in formats like H.264, H.265, MPEG4, or MJPEG. It must record at a minimum of 25 frames per second (fps) and at a resolution of at least Full HD (1080p).
4. **Data Storage and Retention:**
    - **Functionality:** Maintain extensive video archives.
    - **Design Requirement:** Ensure the storage capacity to retain video recordings for a minimum of 90 days without compromising the quality or frame rate.
5. **Enterprise-Level Capability:**
    - **Functionality:** Suitability for large-scale, enterprise-level operations.
    - **Design Requirement:** The VMS should be client-server based and tailored for enterprise-level use, ensuring stability, reliability, and high performance in demanding environments.
6. **User Interface and Accessibility:**
    - **Functionality:** Provide an intuitive and accessible user interface.
    - **Design Requirement:** Design the software with an easy-to-navigate interface, enabling efficient management of video feeds, quick access to archives, and straightforward configuration settings.

7. **Integration with IRSES Infrastructure:**
    - **Functionality:** Seamless integration with other IRSES components.
    - **Design Requirement:** Ensure the VMS is compatible and can be integrated effectively with the overall IRSES infrastructure, including its control room hardware and software systems.
8. **Security and Data Protection:**
    - **Functionality:** Secure video data against unauthorized access.
    - **Design Requirement:** Implement robust security protocols within the VMS to protect video data integrity and confidentiality.

In summary, the VMS application for the IRSES control room is envisioned as a cornerstone of the project's surveillance operations. Its design focuses on scalability, compliance with international standards, high-quality video management, and integration with the broader IRSES framework. This VMS will be pivotal in ensuring that the surveillance aspect of the IRSES project is efficient, reliable, and adaptable to evolving needs.

IRSES Enforcement Control Centre

As part of the IRSES project, the Supplier is required to design and deploy a state-of-the-art Road Safety Enforcement Control Centre (RSECC). This involves creating a functional, operationally efficient control center within the provided space in the Tutikandi Multipurpose Complex. This facility, envisioned to be a hub of traffic Enforcement, management and emergency response, demands careful planning and execution, aligning with both current needs and future expansions.

A. Key Functional Requirements for RSECC

I. **Space Utilization and Design Efficiency:** The RSECC is allocated a substantial area of 1367 sq. ft exclusive area within the Tutikandi Multipurpose Complex, necessitates a design that maximizes functional utility and operational convenience. This design must incorporate distinct areas such as a Telecom Room, NOC-SOC Room, Server Room, Power Room, Reception, Printing/Store, Workstations, and an Officer's Cabin. The blueprint should not only serve present operational requirements but also accommodate future expansion possibilities, reflecting adaptability and foresight.

II. **Integration with ERSS:** A unique aspect of the RSECC is its integration with the Emergency Response Support System (ERSS). Sharing a total space of 4750 sq ft, the RSECC and ERSS must coexist in a manner that optimizes both shared and exclusive operational areas. This synergy is crucial for ensuring seamless functionality and resource sharing between these two critical systems.

III. **Infrastructure Development:** The Supplier is tasked with a comprehensive development of the RSECC's infrastructure. This involves not just the basic layout but also detailed attention to the interior design. The infrastructure should align with the technical and functional requirements of the IRSES project, ensuring that every component – from technological installations to ergonomic workspace design – contributes to an efficient and conducive operational environment.

IV. **Technical and Functional Compliance:** Paramount to the development of the RSECC is adherence to the specified technical and functional requirements mentioned in the ToR. Every aspect of the center's design and implementation must align with the overarching goals of the IRSES project, ensuring that the RSECC stands as a competent nucleus of road safety enforcement and traffic management.

V. **Collaboration and Coordination:** The successful deployment of the RSECC also hinges on effective collaboration with various stakeholders. This includes coordination with IESS, design approvals, and alignment with the emergency response system. The Supplier must navigate these collaborations adeptly, ensuring that the RSECC is not only well-designed but also well-integrated within the larger framework of city infrastructure and emergency response systems.

The Road Safety Enforcement Control Centre (RSECC) is a critical hub for traffic monitoring and law enforcement, and it plays a central role in ensuring road safety in Himachal Pradesh.

Below, we outline the functional areas of the RSECC along with their approximate square footage (sq ft) and key notes:

B. Control room space allocation.

RSECC Exclusive Area:

No	Functions	Sq.ft	Notes
1	Workstation & Video Wall Operations	870.0	37 seating capacity
2	Printing Station	92.0	
3	NOC Room & Project Offcier	265	
4	Officer Room	150	
Total		1377	

Sharing of Space Options:

No	Functions	Sq.ft	Notes
1	Training Cum Conference Hall	440.0	For common purpose. It can be developed by RSECC.
2	Server Room ERSS 112	146.9	Server room & data centre can be combined. RSECC can build it as a standard data centre with 431 sq.ft.
3	Data Centre RSECC	284.0	
Total		870.9	

Common Utility Area: (mentioned for reference)

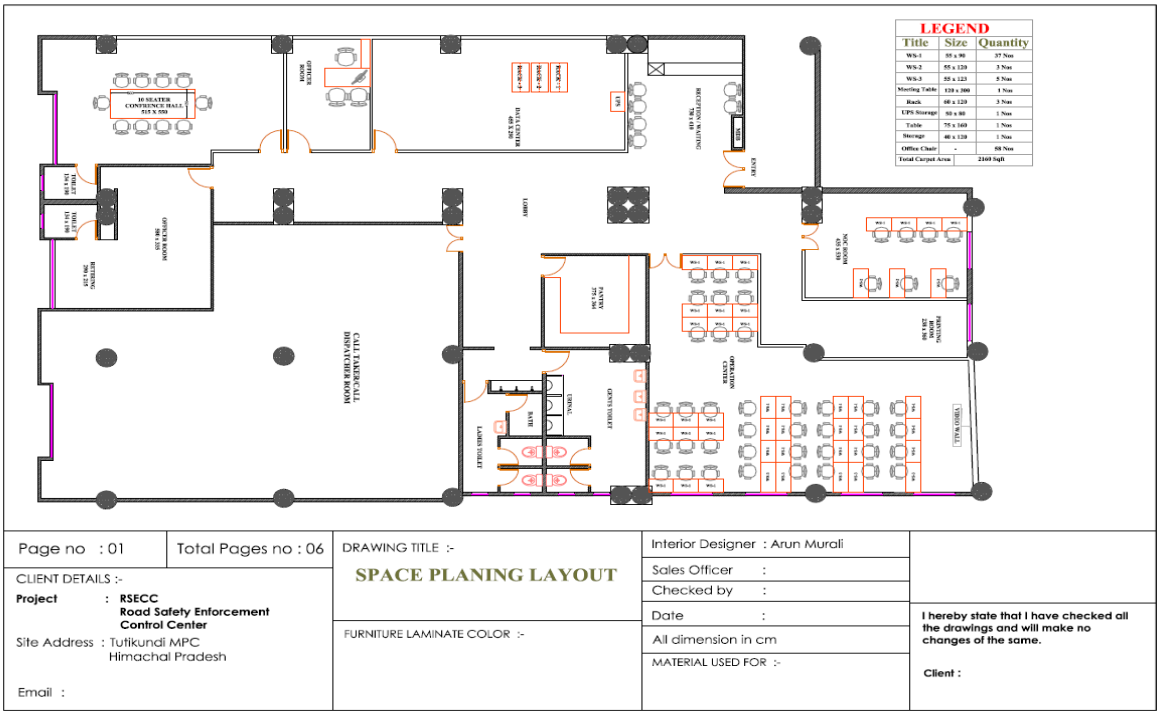
No	Functions	Sq.ft	Notes
1	Reception	322.2	
2	Pantry	147.0	
3	Gents Toilet	209.4	
4	Ladies Toilet with Bathroom	185.7	
Total		864.3	

ERSS 112 Exclusive Area: (mentioned for reference)

No	Functions	Sq.ft	Notes
1	Call Taker/Call Dispatcher Room	1570.0	50+ seating capacity

No	Functions	Sq.ft	Notes
2	Officer Room-1 with Washroom	209.2	
Total		1779.2	

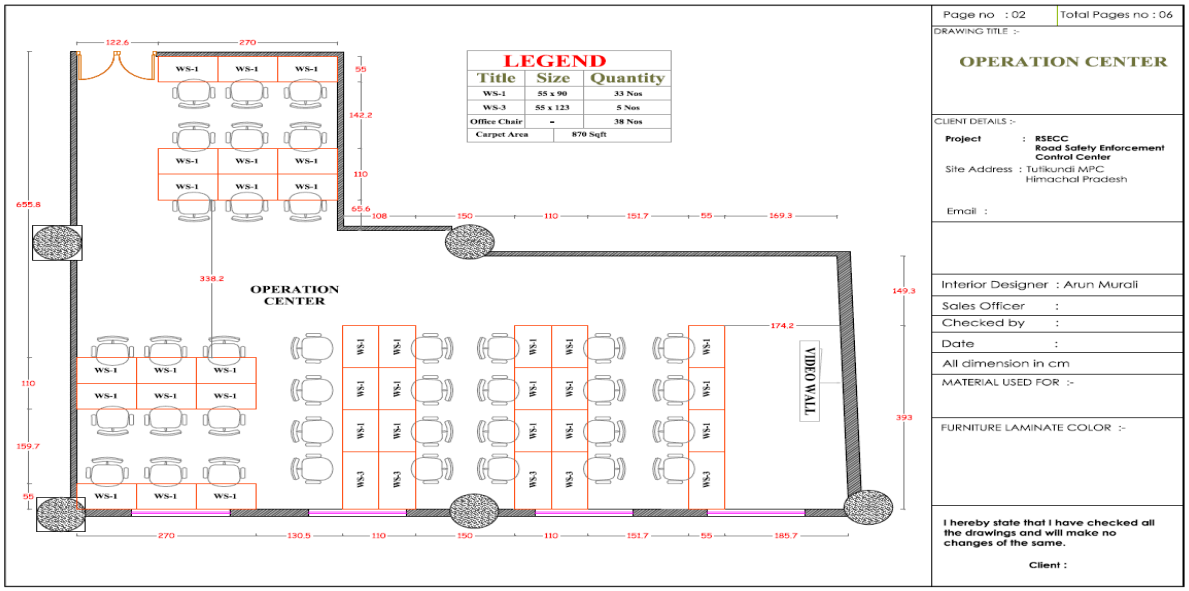
The proposed division of space in the RSECC is designed to optimize functionality and operational convenience for both the Emergency Response Support System (ERSS) and the Road Safety Enforcement Control Centre (RSECC). It provides dedicated areas for essential operations while allowing for shared spaces that enhance collaboration and resource utilization. Additionally, the RSECC is expected to accommodate future expansion to meet evolving needs effectively.



The RSECC is a state-of-the-art facility designed to centralize traffic monitoring, law enforcement, and emergency response support system operations. The Supplier is responsible for the interior design, construction, and furnishing of dedicated areas within the RSECC, as well as the development of necessary structures for both dedicated and common areas. Here are the infrastructure details for each dedicated area:

RSECC Exclusive Area:

a) Workstation & Video Wall Operations (Sq.ft: 870.0):

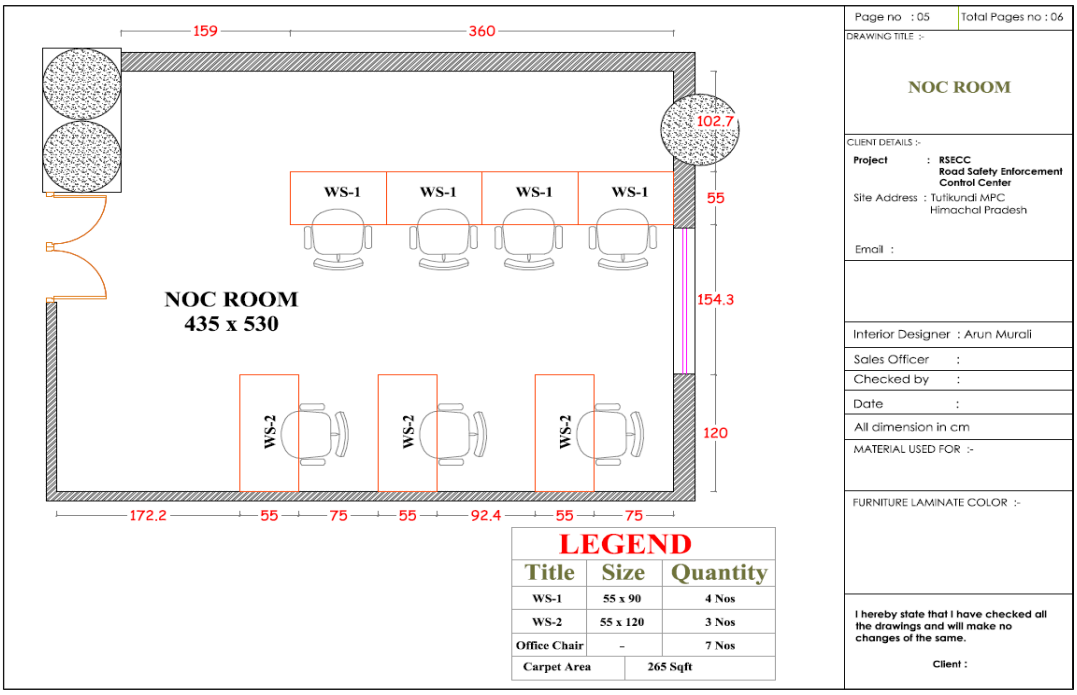


- This area will accommodate 37 workstations for RSECC staff.
- It should have a video wall for monitoring traffic and enforcement activities.
- Ergonomic workstations, computers, and video wall technology should be provided.

b) Printing Station (Sq.ft: 92.0):

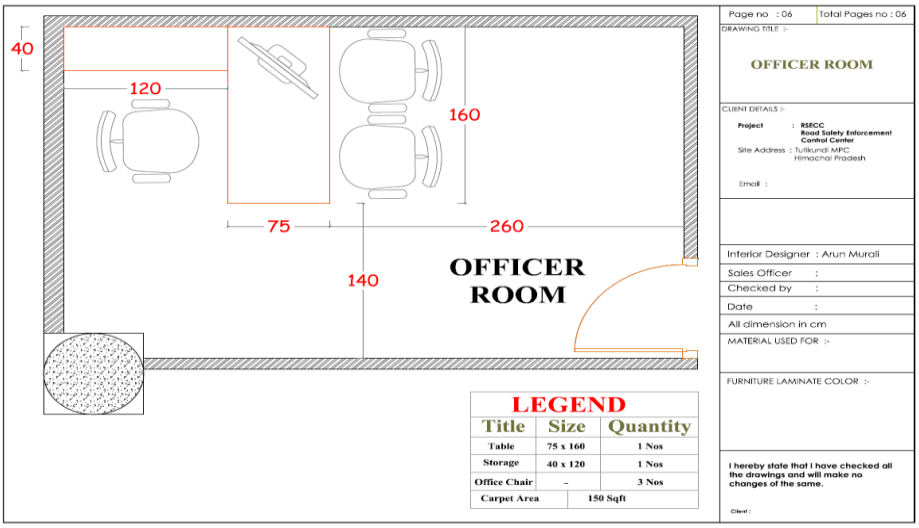
- This station should include printing equipment for generating necessary documents and report

c) NOC Room & Project Officer (Sq.ft: 265):



- The Network Operations Center (NOC) will house critical monitoring and control systems.
- It should be designed for efficient management of the RSECC's IT infrastructure.
- A dedicated space for the project officer should be included.

d) Officer Room (Sq.ft: 150):



- This room will serve as office space for RSECC officers.
- Office furniture and amenities should be provided.

Common Utility Area:

a) Reception (Sq.ft: 322.2):

- The reception area should be well-designed to welcome visitors and guests.
- It should include a reception desk and seating arrangements.

b) Pantry (Sq.ft: 147.0):

- The pantry area should be equipped with basic kitchen facilities for staff convenience.

c) Gents Toilet (Sq.ft: 209.4):

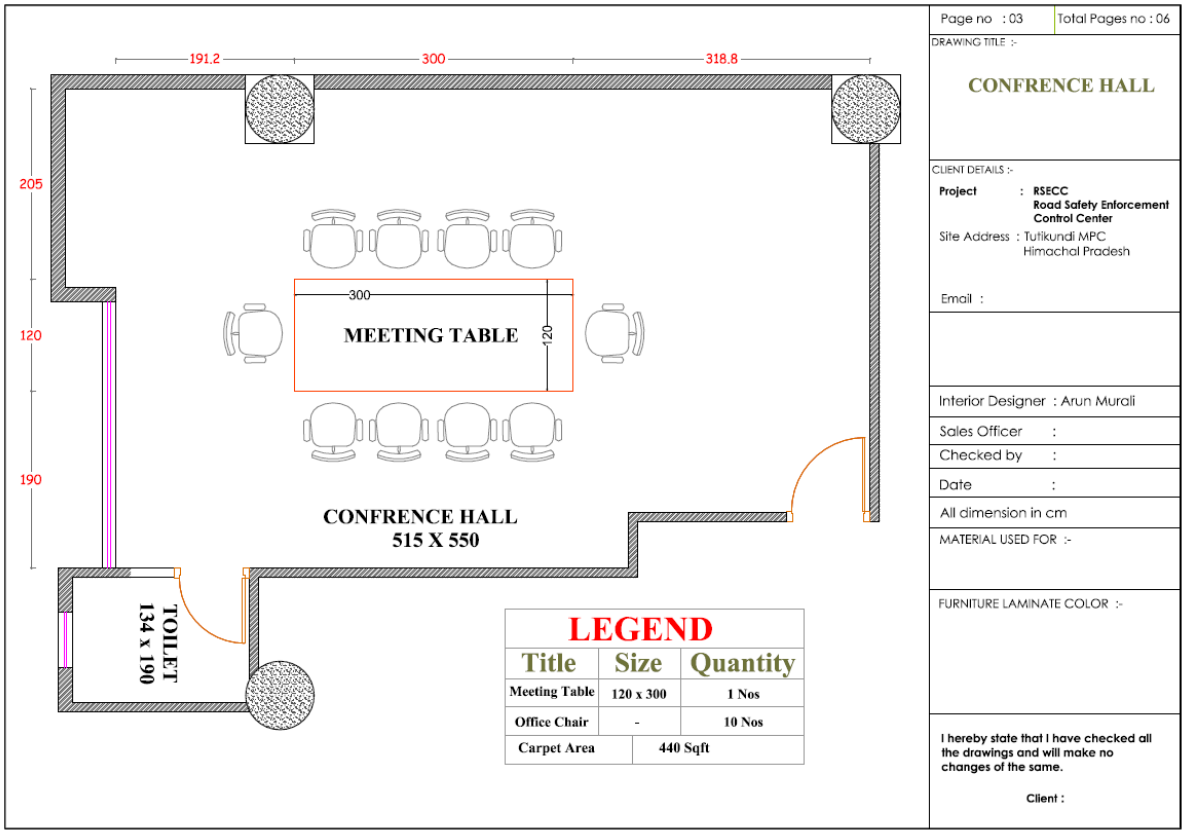
- Adequate restroom facilities for male staff should be provided.

d) Ladies Toilet with Bathroom (Sq.ft: 185.7):

- Adequate restroom facilities for female staff, including a bathroom, should be provided.

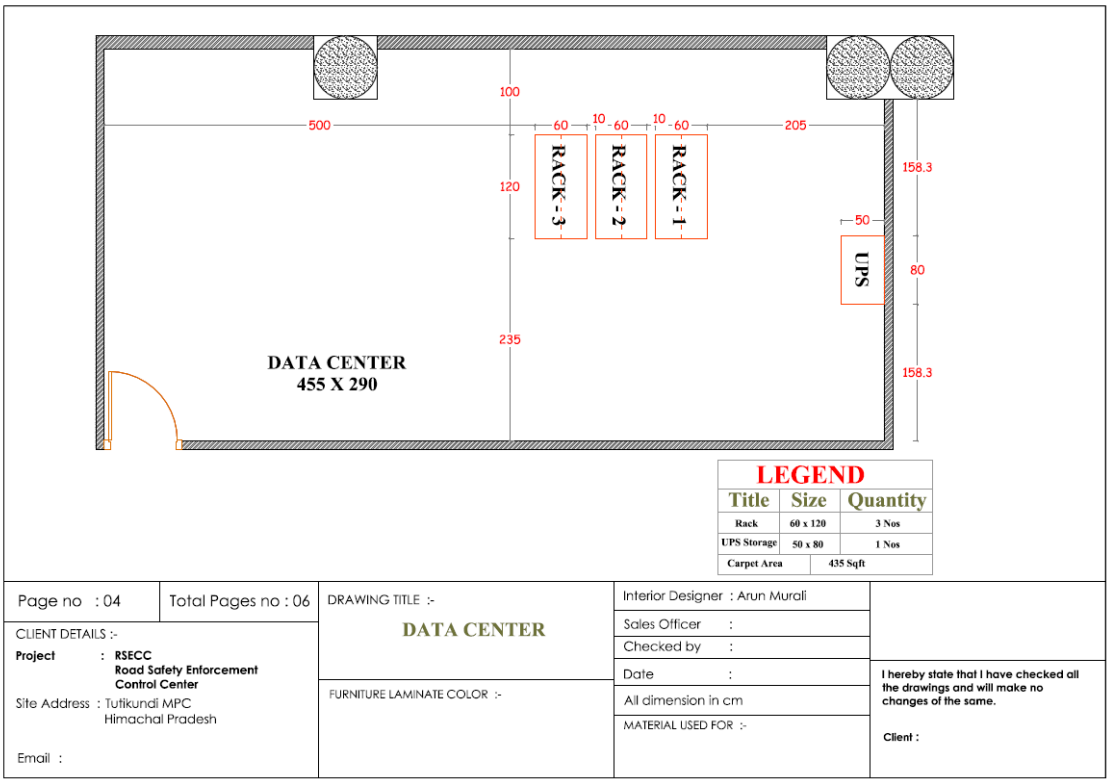
Sharing of Space Options:

a) Training Cum Conference Hall (Sq.ft: 440.0):



- This hall will serve as a common area for training and conferences.
- It should be equipped with audiovisual equipment and seating arrangements.

b) Server Room and Data Center (Sq.ft: 435):



- The server room will house IT infrastructure for ERSS operations.
- It should be designed to ensure the security and efficiency of data management.
- The data center will house IT infrastructure for RSECC operations.
- It should meet industry standards for data storage and security.

The Supplier should ensure that all dedicated areas are designed and equipped to support their respective functions effectively. Additionally, the common areas should be designed to facilitate collaboration and resource sharing between ERSS and RSECC personnel. The infrastructure should be flexible and scalable to accommodate future expansion and technological advancements.

IT Infrastructure for IRSES Control room

A. Datacenter infrastructure

In the ambitious IRSES project, a key requirement is the establishment of a state-of-the-art data center, tailored to meet the project's current and prospective needs within a 435 sq ft area. This data center is more than a mere repository of servers; it's a critical facility that will house the technological backbone of the IRSES project, ensuring its smooth operation and scalability.

Key Functional Requirements for the Data Center

1. **Design and Construct**:
   - **Requirement:** Build a datacenter/server room in the designated area, adhering to the specific functional and technical requirements of the IRSES project.
   - **Functionality:** The design should support efficient operation, maintenance, and future expansion needs.
2. **Cooling Infrastructure**:
   - **Requirement:** Install three 42U cool racks, with two dedicated for IRSES and one for IESS requirements.
   - **Functionality:** These cool racks should provide optimal cooling solutions to maintain the servers at appropriate operating temperatures.
3. **Climate Control**:
   - **Requirement:** Equip the data center with an air conditioning system.
   - **Functionality:** The air conditioning system must ensure a stable and controlled environment to prevent overheating and ensure equipment longevity.
4. **Uninterrupted Power Supply (UPS)**:
   - **Requirement:** Install a UPS system.
   - **Functionality:** The UPS will provide backup power to ensure continuous operation of the data center in case of power outages.
5. **Fire Safety Measures**:
   - **Requirement:** Implement a comprehensive firefighting system, including fire alarms and extinguishers.
   - **Functionality:** These measures are critical for the prevention and quick response to any fire incidents, safeguarding the data center's integrity.
6. **Rack Allocation and Layout**:
   - **Requirement:** Position three 42U Cool racks and one open rack for passive components.
   - **Functionality:** These racks should be arranged to facilitate easy access, maintenance, and effective cable management.
7. **Flooring and Electrical Standards**:
   - **Requirement:** Implement a raised floor system and electrical/UPS wiring adhering to industry standards.

- **Functionality:** The raised flooring should provide a secure routing space for cables and help in cooling management, while the electrical setup should ensure safety and reliability.

8. **Accessibility and Security**:
   - **Requirement:** Ensure secure and controlled access to the data center.
   - **Functionality:** Access to the data center should be restricted to authorized personnel only, ensuring the security of the sensitive equipment and data housed within.

The construction and functional deployment of this data center are pivotal in realizing the goals of the IRSES project. By adhering to these detailed requirements, the data center will not only serve the current operational needs but also be poised to adapt and expand in line with the project's future directions. It is envisioned as a hub of technological excellence, underpinning the vast array of IRSES operations and services.

B. Enterprise Server and storage for IRSES data storage.

For the IRSES project, a vital component is the implementation of a robust Enterprise Server and Storage system. This system is designed to effectively manage and store an extensive range of data related to the project's operations.

Key Functional Requirements

1. **System Design and Implementation:**
   - **Requirement:** Design and implement an enterprise-grade server and storage system.
   - **Functionality:** The system must align with the technical specifications outlined in the RFB, catering specifically to the unique demands of the IRSES project.
2. **High Availability and Resource Management:**
   - **Requirement:** Ensure the system offers high availability.
   - **Functionality:** The server and storage should be capable of managing resources efficiently for various applications including central monitoring, challan generation, violation detection, and payment gateway integration.
3. **Application Support:**
   - **Requirement:** Compatibility with a wide range of applications.
   - **Functionality:** The system should support all essential applications required for the smooth operation of the IRSES project. This includes, but is not limited to, Active Directory (AD) servers, Human Resource Management Systems (HRMS), Network Operations Center (NOC)/Security Operations Center (SOC) solutions.
4. **Scalability and Performance:**
   - **Requirement:** The system should be scalable and performant.
   - **Functionality:** It should be able to handle increasing amounts of data and growing application needs over time, without compromising on performance.
5. **Data Security and Integrity:**
   - **Requirement:** Implement robust data security measures.

- **Functionality:** The system must ensure the security and integrity of the stored data, employing advanced security protocols to protect against unauthorized access and data breaches.

6. **Backup and Disaster Recovery:**
   - **Requirement:** Incorporate efficient backup and disaster recovery solutions.
   - **Functionality:** The system should have a reliable backup mechanism and a disaster recovery plan to safeguard data in any unforeseen circumstances.
7. **Integration with Control Room Operations:**
   - **Requirement:** Seamless integration with control room operations.
   - **Functionality:** Ensure that the server and storage solutions are in sync with the operational requirements of the control room, facilitating real-time data processing and decision-making.
8. **Technical Support and Maintenance:**
   - **Requirement:** Provide ongoing technical support and maintenance services as part of service phase.
   - **Functionality:** Regular system maintenance and support are crucial for the uninterrupted operation of the server and storage infrastructure.

In essence, the Enterprise Server and Storage for the IRSES project is more than just a repository of data; it is a dynamic system, crucial for the effective management of traffic enforcement operations. Its design and implementation should focus on high availability, scalability, and security, supporting the myriad of applications and functionalities required for the successful operation and management of the IRSES project. The system is expected to be the technological cornerstone that ensures the seamless and efficient functioning of the entire IRSES infrastructure.

C. Enterprise networking and Security solutions

The implementation of an Enterprise Local Area Network (LAN) is a crucial aspect of the IRSES project. The Supplier is tasked with designing and deploying a comprehensive LAN network solution to cater to various functional areas such as challan operators, NOC/SOC engineers, surveillance monitoring room, and officials.

Key Functional Requirements

1. **Structured Cabling:**
   - **Requirement:** Implement structured cabling using Cat6 or Cat6A UTP cables.
   - **Functionality:** Provide reliable wired connectivity for all designated areas, ensuring high-speed and stable network connections.
2. **Fiber Connectivity:**
   - **Requirement:** Establish fiber optic connections for rack-to-rack links.
   - **Functionality:** Ensure high-capacity and low-latency connectivity between different server racks, crucial for data-intensive operations like surveillance monitoring.
3. **Wireless Network Infrastructure:**
   - **Requirement:** Set up a robust Wi-Fi network for wireless users.

- **Functionality:** The Wi-Fi network should offer extensive coverage, high-speed connectivity, and support a significant number of simultaneous users.

4. **Secured Network Gateway:**
   - **Requirement:** Implement a secure gateway with advanced firewall protections.
   - **Functionality:** Protect the network from external threats and unauthorized access, ensuring the safety of sensitive data.
5. **Load Balancing Solutions:**
   - **Requirement:** Deploy load balancers for efficient network traffic management.
   - **Functionality:** Balance network loads to prevent overloading on any single server, ensuring optimal network performance and uptime.
6. **Scalability and Flexibility:**
   - **Requirement:** Design the network to be scalable and flexible.
   - **Functionality:** Allow for easy expansion and adaptation of the network infrastructure to meet evolving project demands.
7. **Technical Compliance:**
   - **Requirement:** Adherence to technical and functional specifications outlined in the RFB.
   - **Functionality:** Ensure that all components and network design comply with the specified requirements for performance, security, and reliability.
8. **Integration with Existing Systems:**
   - **Requirement:** Seamless integration with existing IT infrastructure.
   - **Functionality:** Ensure compatibility and effective communication between the new LAN setup and existing systems within the IRSES framework.
9. **Network Management and Maintenance:**
   - **Requirement:** Provide tools and services for network management and maintenance.
   - **Functionality:** Enable efficient monitoring, troubleshooting, and maintenance of the network, ensuring its continuous optimal performance.

The proposed Enterprise LAN network solution for the IRSES project is envisioned to be a robust and scalable infrastructure, capable of supporting various critical operations. It should facilitate high-speed, secure, and reliable connectivity across different functional areas, enhancing the overall efficiency and effectiveness of the IRSES project operations. The design and implementation must meet the highest standards of technical compliance, security, and operational excellence, as outlined in the RFB.

D. Soc/Noc Center

The establishment of a combined Security Operations Center (SOC) and Network Operations Center (NOC) is a vital component of the IRSES project. This center is designed to be the epicenter for managing network operations and ensuring cybersecurity across the IRSES infrastructure.

Key Functional Requirements

1. **Integrated Operations Management:**
    - **Requirement:** Seamlessly integrate network and security operations.
    - **Functionality:** The center should efficiently handle both network performance monitoring (NOC functions) and security threat detection and response (SOC functions).
2. **Advanced Monitoring Capabilities:**
    - **Requirement:** Implement state-of-the-art monitoring tools and technologies.
    - **Functionality:** Real-time monitoring of network traffic, system performance, and security alerts, ensuring rapid response to potential issues or threats.
3. **Incident Response and Management:**
    - **Requirement:** Develop and enforce incident response protocols.
    - **Functionality:** Equip the center with the capability to quickly identify, analyze, and respond to network incidents and security breaches.
4. **Infrastructure and Network Security:**
    - **Requirement:** Employ robust cybersecurity measures.
    - **Functionality:** Protect the IRSES network and data from cyber threats, using advanced security solutions like firewalls, intrusion detection systems, and anti-malware tools.
5. **Communication and Coordination:**
    - **Requirement:** Facilitate effective intra-departmental and external communications.
    - **Functionality:** Ensure seamless coordination between SOC/NOC and other IRSES components, including emergency response teams and external agencies.
6. **Data Analysis and Reporting:**
    - **Requirement:** Perform comprehensive data analysis.
    - **Functionality:** Analyze network and security data to identify patterns, predict potential issues, and inform decision-making processes.
7. **Staff Training and Expertise:**
    - **Requirement:** Staff the center with trained professionals.
    - **Functionality:** Employ experienced and skilled personnel capable of managing NOC and SOC operations effectively.
8. **Scalability and Flexibility:**
    - **Requirement:** Design the center to accommodate future growth and evolving technologies.
    - **Functionality:** Ensure that the SOC/NOC can adapt to changing requirements and incorporate new technologies as needed.
9. **Backup and Redundancy:**
    - **Requirement:** Implement backup systems and redundancy.

- **Functionality:** Guarantee uninterrupted operations, even in the event of system failures or other contingencies.

The SOC/NOC Center is poised to play a critical role in the IRSES project, serving as the command hub for both network and security operations. Its successful implementation will ensure robust and responsive management of the IRSES infrastructure, contributing significantly to the project's overarching goals of enhanced road safety, efficient traffic management, and reliable data security.

E. User End Systems and Heavy-Duty Printers for Challan Generation

In the IRSES project, user end systems and heavy-duty printers are essential for efficiently handling traffic violation challans. These components are critical in processing, generating, and printing challans as part of the traffic enforcement process.

Key Functional Requirements

1. **User End Systems:**
   - **Requirement:** Deploy robust and efficient user end systems.
   - **Functionality:** These systems should be capable of handling traffic violation data processing, challan generation, and other related tasks. They should be equipped with adequate processing power, memory, and storage as per the technical requirement to manage large volumes of data seamlessly.
2. **System Compatibility and Integration:**
   - **Requirement:** Ensure compatibility with existing IRSES software and databases.
   - **Functionality:** User end systems must integrate smoothly with the IRSES network, including databases for vehicle information, violation records, and challan processing software.
3. **Security and Data Protection:**
   - **Requirement:** Implement robust security measures.
   - **Functionality:** Systems should be secured against unauthorized access and data breaches, ensuring the confidentiality and integrity of sensitive information.
4. **Heavy-Duty Printers for Challan Printing:**
   - **Requirement:** Install high-capacity, heavy-duty printers.
   - **Functionality:** Printers must be capable of handling high-volume challan printing with speed and reliability as per the technical requirement outlined in theRFB. They should support various paper sizes and be durable enough for continuous operation.
5. **Printer Connectivity and Networking:**
   - **Requirement:** Ensure seamless connectivity with user end systems.
   - **Functionality:** Printers should be network-compatible, allowing for easy connection with multiple user end systems for direct challan printing.
6. **Ease of Maintenance and Reliability:**
   - **Requirement:** Printers should be easy to maintain and highly reliable.
   - **Functionality:** Ensure minimal downtime with user-friendly maintenance processes, and printers should have a proven track record of reliability in high-use scenarios.

7. **Quality of Output:**
    - **Requirement:** High-resolution printing quality.
    - **Functionality:** Printers must produce clear and legible challans, which are critical for enforcement purposes.
8. **Ergonomic Setup:**
    - **Requirement:** User-friendly setup for systems and printers.
    - **Functionality:** The arrangement of user end systems and printers should promote an ergonomic and efficient workspace, enhancing user comfort and productivity.
9. **Technical Support and Service:**
    - **Requirement:** Provide ongoing technical support and service for systems and printers as part of the service phase the project.
    - **Functionality:** Ensure timely technical assistance and maintenance services to prevent and resolve any operational issues promptly.

The deployment of user end systems and heavy-duty printers in the IRSES project is crucial for the streamlined and effective processing of traffic challans. These systems and printers should be robust, secure, and efficient, ensuring seamless integration with the IRSES network and high-performance in challan generation and printing. Their implementation is key to enhancing the operational efficiency of the IRSES traffic enforcement process.

F. Video Wall in IRSES Project

A crucial element of the IRSES project is the installation of a state-of-the-art video wall in the control room for central surveillance monitoring and each police district headquarters. This video wall will play a pivotal role in enhancing the capabilities of police surveillance and response.

Key Functional Requirements

1. **Design and Implementation:**
    - **Requirement:** The Supplier must design and implement a video wall in the designated surveillance room within the control room.
    - **Functionality:** The design should facilitate efficient monitoring of multiple video feeds simultaneously, offering high-resolution displays and user-friendly interfaces.
2. **Adequate Size and Resolution:**
    - **Requirement:** Ensure the video wall is of adequate size and resolution.
    - **Functionality:** The wall should provide clear and detailed visuals, enabling operators to monitor various feeds without loss of image quality, crucial for accurate surveillance and decision-making.
3. **User-Friendly Interface:**
    - **Requirement:** Incorporate a user-friendly interface for easy operation.
    - **Functionality:** The video wall system should be easily navigable, allowing quick access to different camera feeds and functionalities without requiring extensive technical expertise.
4. **Integration with Surveillance Systems:**
    - **Requirement:** Seamless integration with the existing surveillance infrastructure.

- **Functionality:** Ensure compatibility with various camera types and surveillance systems used within the IRSES project for unified and efficient monitoring.

5. **Customizable Layouts and Views:**
   - **Requirement:** Provide customizable display layouts and views.
   - **Functionality:** Operators should be able to adjust and customize the layout of the video feeds based on situational requirements, enhancing the effectiveness of surveillance.
6. **Reliability and Continuous Operation:**
   - **Requirement:** High reliability and support for continuous operation.
   - **Functionality:** The video wall should be capable of running 24/7 without interruptions, with minimal downtime for maintenance.
7. **Technical Compliance with RFB:**
   - **Requirement:** Adhere to the technical specifications outlined in the RFB.
   - **Functionality:** The video wall should meet all specified technical requirements, ensuring it aligns with the overall objectives and standards of the IRSES project.
8. **Scalability and Upgradability:**
   - **Requirement:** Allow for future scalability and technological upgrades.
   - **Functionality:** The system should be designed to accommodate future expansions or upgrades as surveillance technology evolves.
9. **Support and Maintenance:**
   - **Requirement:** Provide ongoing support and maintenance services.
   - **Functionality:** Ensure timely technical assistance and maintenance services to sustain optimal performance and address any operational issues swiftly.

The installation of a video wall in the IRSES project's Control Room and District Police Headquarters is a crucial step toward strengthening the surveillance capabilities of the police force. By offering a comprehensive and high-resolution display of multiple real-time video feeds, coupled with user-friendly interfaces and reliable performance, the video wall will significantly enhance situational awareness and response efficiency.

To ensure the video wall effectively supports the surveillance objectives of the IRSES project, it is essential that it meets the specific technical and functional requirements outlined in the RFB. This will enable the police to monitor and manage surveillance operations more efficiently, thereby improving overall public safety and response times in critical situations.

G. Requirements for Field Hardware Components of the IRSES Subsystem

In the dynamic landscape of traffic management and safety, the Intelligent Road Safety Enforcement System (IRSES) project emerges as a paragon of technological innovation and operational efficiency. The cornerstone of its functionality lies in the meticulously crafted field hardware components. These sophisticated elements are strategically stationed across critical road junctures and intersections, functioning not just as mere instruments but as fundamental pillars that uphold the entire system. They play a vital role in capturing and relaying real-time data, along with pinpointing various traffic violations.

The system's architectural blueprint encompasses a detailed schematic layout, particularly focusing on vehicle monitoring mechanisms at intersections. The layout includes a three-dimensional representation, meticulously illustrating the setup of traffic enforcement, distinct lane markings, and the strategic positioning of various specialized cameras. These cameras are primarily designated for functions such as Automatic Number Plate Recognition (ANPR) and the capture of evidentiary footage, essential for the enforcement process.

The depicted intersection is engineered to facilitate controlled vehicle passage and rigorous monitoring. The layout integrates several key components. This includes state-of-the-art infrared cameras, represented through specific icons for easy identification. These cameras are crucial for capturing high-quality images under varied lighting conditions. Additionally, the system incorporates a robust network switch, integral for ensuring seamless connectivity across the different system elements.

To safeguard against potential power disruptions, an Uninterruptible Power Supply (UPS) is integrated, ensuring the system's continuous operation during power outages. Moreover, the inclusion of an LPU, presumably standing for a Local Processing Unit, signifies the system's advanced capability to analyze and process the data procured from the cameras. This processing unit is pivotal in synthesizing the incoming data streams into actionable insights, thereby enhancing the system's responsiveness and effectiveness in traffic enforcement and management.

Overall, this comprehensive setup embodies a blend of cutting-edge technology and strategic design, marking a significant advancement in the realm of intelligent traffic safety solutions.

H. Hardware Component Specifications and Functions

The proposed cameras must adhere to the specified technical and functional requirements and support the below use cases. Notably, 20 strategic locations necessitate thermal cameras with high sensitivity, enabling precise temperature variation detection in challenging weather conditions (including fog, rain, and snow), as detailed below.

i. **Speed Sensing Radar:**

- **Function:** Measures vehicle speeds to detect and report speeding violations.
- **Requirement:** Radar must provide accurate speed measurements and cover multiple traffic lanes.

ii. Camera for Number Plate Capture:

- **Function:** Captures clear images of license plates for vehicle identification.
- **Requirement:** Cameras should be positioned in each lane and capable of capturing readable number plates under various conditions.

iii. Camera for Evidence Capture:

- **Function:** Records visual evidence of traffic violations.
- **Requirement:** Must be positioned at key locations for optimal coverage and clarity.

iv. IR Flash for Evidence Camera:

- **Function:** Provides illumination for cameras during night or low-light conditions.
- **Requirement:** Infrared flashes should be powerful enough to illuminate scenes effectively.

v. Roadside Processing Hardware/Software (LPU):

- **Function:** Facilitates on-site data processing and transmission.
- **Requirement:** Systems must handle real-time data analysis and communication with the control center.

vi. Camera Mounting Gantry/Cantilever:

- **Function:** Provides suitable mounting structures for cameras.
- **Requirement:** Structures should ensure optimal camera angles and visibility.

vii. Other Necessary Accessories:

- **Function:** Includes additional components like electricity connections, UPS, Filed Firewall, Industrial PoE Switches, and redundant Internet/MPLS/OFC connectivity.
- **Requirement:** Essential for the full operational functionality of field hardware.

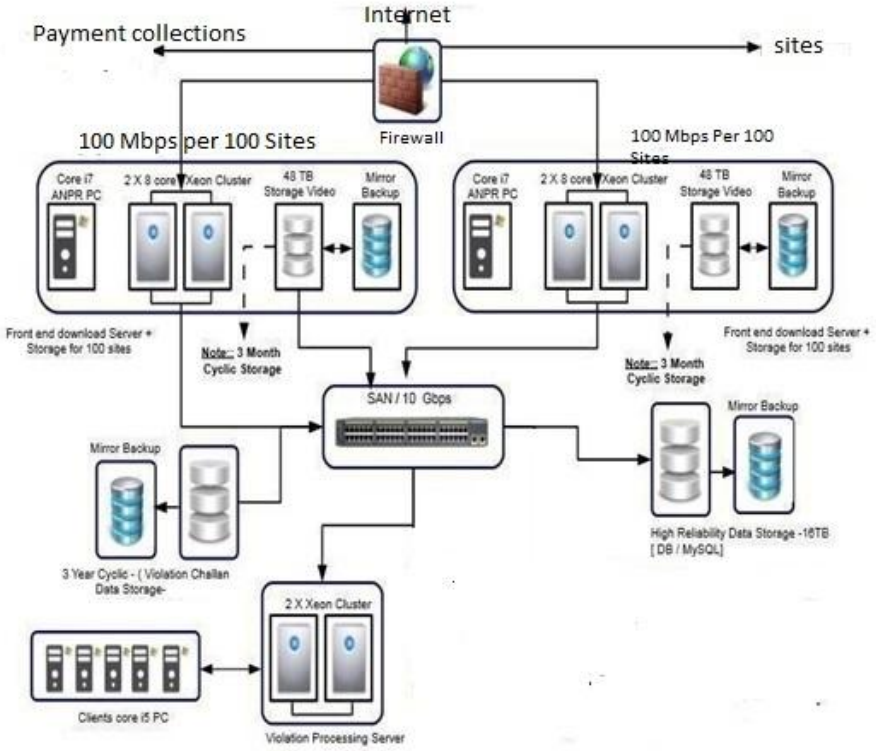
viii. Centralized Surveillance Cameras:

- **Function:** Monitors high-alert traffic areas for security and traffic management.
- **Requirement:** Should be capable of covering wide areas and providing high-quality footage.

Site Finalization for IRSES

- **Revalidation and Assessment:** Confirm suitability of police-identified sites and assess new locations based on accident vulnerabilities, traffic volume, and installation viability.
- **Infrastructure and Safety:** Ensure each site has adequate infrastructure and safe installation conditions.
- **Comprehensive Reporting:** Document detailed site assessments to justify selections and ensure optimal coverage for traffic safety improvements.

I. Proposed System Architect for IRSES



The design of the main control room for the Intelligent Road Safety and Enforcement System (IRSES) requires a comprehensive approach that encompasses enterprise-level network solutions, advanced computing infrastructure, and seamless connectivity. The design should focus on creating a highly resilient, efficient, and secure control center capable of managing extensive data and communication needs.

J. Connectivity and Network Infrastructure

a. **Field Camera Connectivity:**

- **Design Focus:** All field camera locations should connect to the control room using dedicated fiber, MPLS, or 4/5G connectivity. There must be dual connectivity options for each field site to ensure continuous data flow.

b. **Network Resilience and Bandwidth:**

- **Design Focus:** Implement software-defined WAN functions for seamless operation between the field and control room. Design the network to handle a bandwidth of 100Mbps for every 100 locations, ensuring robust data transfer capabilities.

c. **Firewall and Security Measures:**

- **Design Focus:** Integrate high-availability (HA) firewalls in the control room. Incorporate Web Application Firewall (WAF), Link Load Balancing, and SD-WAN features for enhanced security and uninterrupted connectivity.

d. **LAN Infrastructure:**

- **Design Focus:** The LAN should be designed with 1G or 10G capabilities, with a backbone of at least 10G and full redundancy. This ensures high-speed internal networking and reliable data transmission.

e. **Virtualized Server Infrastructure:**

- **Design Focus:** Implement a virtualized server environment with node-level HA, capable of withstanding up to two nodes' failure. Connectivity between servers and storage should be a minimum of 25Gig to handle high data volumes.

f. **Surveillance System Integration:**

- **Design Focus:** Synchronize the Video Management System (VMS) with all field surveillance systems. Ensure live streaming capability on the control center's video wall, tailored to police requirements.

g. **Data Storage and Backup:**

- **Design Focus:** Provide adequate storage for up to 90 days of surveillance data. Include a comprehensive backup solution as part of the system design.

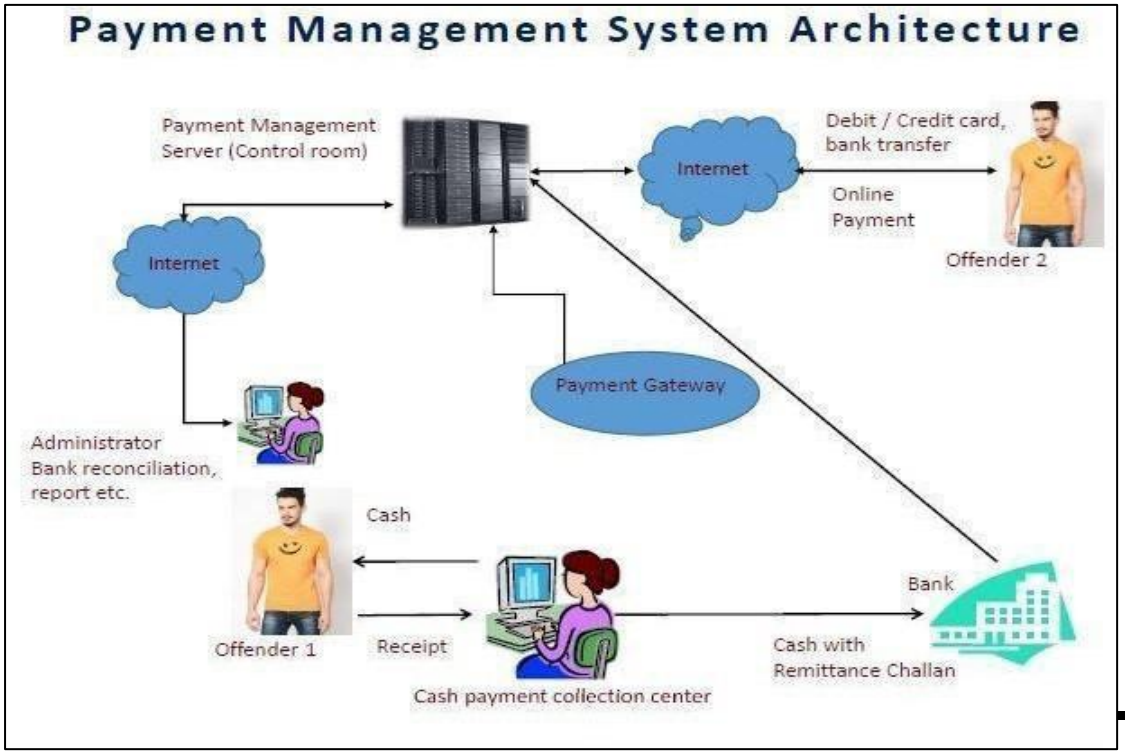
K. Main Control Room Components

- **Clustered Servers:** For violation memo processing and payment management software.
- **Server Storage:** Adequate storage for all server needs, ensuring data integrity and quick access.
- **Backup Storage:** Robust backup solutions for data redundancy and recovery.
- **Client PCs:** High-performance workstations for control room operators.
- **Heavy-Duty Printers:** Capable of handling high-volume printing requirements.
- **Network Switches:** Enterprise-grade switches for robust network management.
- **Firewall:** Advanced firewalls for network security and data protection.
- **Security Operation Center:** Equipped with the necessary tools for security monitoring.
- **UPS:** Redundant UPS systems for all control room operations.
- **Control Room Racks and Accessories:** Housing for all technical components.
- **Electrification and Networking:** Industrial-grade electrification and CAT 6 networking.
- **Video Recording and Viewing Hardware:** For surveillance monitoring and recording.
- **Fire Alarm and Management Systems:** Ensuring the safety of the control room environment.
- **Interior Work:** Ergonomic and efficient interior design for the control room.
- **Automated Generator System:** Backup power solution for complete operational resilience.

- **Additional Components:** As identified during the project planning and execution phases.

L. Payment Collection Center

The Payment Collection Center is a vital part of the Intelligent Road Safety and Enforcement System (IRSES), facilitating the efficient and secure collection of fines and penalties. These centers will be established in each police district and equipped with the necessary technology to handle both offline and online payments.



Technology Specifications and Compliance

1.1 General Technical Requirements

The Integrated Road Safety Enforcement System (IRSES) project is an ambitious initiative aimed at transforming traffic enforcement and management in Himachal Pradesh through the integration of cutting-edge Artificial Intelligence (AI) technologies. This document, Annexure-2, delineates the functional and technical requirements and specifications essential for the successful design, development, supply, installation, operation, maintenance, and management of the IRSES over a five-year period.

The primary objective of the IRSES is to enhance road safety and ensure compliance with traffic regulations by deploying state-of-the-art Automatic Number Plate Recognition (ANPR) cameras and AI-based surveillance systems. These technologies are engineered to detect a broad spectrum of traffic violations, including speeding, non-compliance with helmet laws, triple riding on two-wheelers, illegal stopping/parking, unsafe overtaking, and seat belt non-usage. Additionally, the system will generate valuable insights for traffic management and urban planning through comprehensive data analysis and reporting.

The scope of this document encompasses detailed descriptions of the functional capabilities of the IRSES, the technical specifications of its components, and the requirements for its operation, maintenance, and management. By establishing clear and precise guidelines, this document aims to ensure the effective implementation of the IRSES, resulting in significant improvements in traffic discipline, road safety, and overall traffic management.

The Supplier is required to adhere to the functional and technical requirements outlined below and to clearly specify all compliance requirements, proposed solution capabilities, deviations, specifications, and OEM part numbers, along with corresponding datasheets and product guidelines. All compliance documentation must be supported by references available on the respective OEM's publicly accessible online platforms. Supplier must provide a comprehensive compliance sheet and bid response document, including all relevant links and datasheets.

1.2 Functional and Technical Requirement Specifications

a) Automated Number Plate Recognition System

The Automatic Number Plate Recognition (ANPR) solution is a critical component of the Integrated Road Safety Enforcement System (IRSES), to be deployed at all proposed traffic signal locations. The ANPR system should work in conjunction with Speed Violation Detection (SVD) and other vehicular analytics systems to provide comprehensive number plate information.

Functional Specifications - Automated Number Plate Recognition System

1. **Real-Time Processing:**
    - The ANPR process must be performed at the lane location in real-time.
    - Information captured includes the plate alphanumeric, date-time, and any other necessary data.
    - Processing time for capturing and transmitting the information should be completed within a few milliseconds.
2. **Data Transmission:**

- Captured information shall be transmitted to the Local Processing Unit (LPU) and the Control Room as required.
- Ensure reliable and secure data transmission to prevent data loss or tampering.

3. Coverage and Detection:

- Each camera system should cover a road width of 3.5 meters and above.
- The detection zone for ANPR data should range between 25 meters to 30 meters from the camera.

4. Integration with Other Systems:

- The ANPR system should integrate seamlessly with Speed Violation Detection (SVD) and other vehicular analytics systems to enhance functionality and provide comprehensive data analysis.

5. Accuracy and Reliability:

- High accuracy in reading number plates under various conditions (e.g., different lighting, weather conditions, and vehicle speeds).
- Reliability in operation with minimal maintenance requirements.

6. Technical Requirements:

- Cameras should be capable of high-resolution image capture to ensure clarity and precision in number plate recognition.
- The system should be scalable to accommodate future expansions and additional traffic signal locations.

Sr. No.	Parameters	Minimum Specifications	Compliance (Y / N)
1.	**Vehicle Detection by Color and logo / Color and number plate**	1. The system shall detect the color of all vehicles in the camera view during daytime and label them as per the predefined list of configured system colors. The system shall store the color information of each vehicle along with the license plate information for each transaction in the database. 2. The system shall have options to search historical records for post event analysis by the vehicle color or the vehicle color with license plate and date time combinations 3. The system shall detect make of vehicle by logo detection. 4. The system shall classify the vehicles in minimum 4 (four) categories (2-wheeler, 3-	

		Wheeler/Auto, LMV, HMV at any given point in time.)(these are non-working analytics and will not work in night, dawn and dusk)	
2.	**Alert Generation**	1. The system should have option to input certain license plates according to the hot listed categories like "Wanted", "Suspicious", "Stolen", etc by authorized personnel. 2. The system should be able to generate automatic alarms to alert the control room personnel for further action, in the event of detection of any vehicle falling in the hot listed categories	
3.	**Vehicle Status Alarm Module**	• On successful recognition of the number plate, system should be able generate automatic alarm to alert the control room for vehicles which have been marked as "Wanted", "Suspicious", "Stolen", "Expired". (System should have provision/expansion option to add more categories for future need). The Instantaneous and automatic generation of alarms. In case of identity of vehicle in any category • which is define by user	
4.		The system should be able to work day & night. The system should be able to read and process number plates of vehicles on high speed of more than 200 km/hr. External IR illuminator shall be used for accurate detection of number plates in night condition. • Certificate from ARAI as per latest GSR guidelines dated August 2021. Valid certificate shall be submitted along with bid.	
5.		LPU shall be of the same OEM as of ANPR for seamless integration, performance to meet technical requirements.	
6.	**Vehicle Log**	• The system shall enable easy and quick retrieval of snapshots, video	

	Module	and other data for post incident analysis and investigations. • The system should be able to generate suitable MIS reports that will provide meaningful data to concerned authorities and facilitate optimum utilization of resources. These reports shall include. • Report of vehicle flow at each of the installed locations for Last Day, Last Week and Last Month. • Report of vehicles in the detected categories at each of the installed locations for Last Day, Last Week and Last Month. • Report of Vehicle Status change in different Vehicle Categories. • The system shall have Search option to tune the reports based on license plate number, date and time, site location as per the need of the authorities. • The system shall have option to save custom reports for subsequent use. • The system shall have option to export report being viewed to common format for use outside of the ANPRS or exporting into other systems. The system should provide advanced and smart searching facility of License plates from the database. There should be an option of searching number plates almost matching with the specific number entered (up to 1 and 2-character distance)	
7.	**Vehicle Category Editor**	a) The system should have option to input certain license plates according to category like "Wanted", "Suspicious", "Stolen", “Expired" etc. by Authorized personnel. • The system should have an option	

		to add new categories by authorized personnel. • The system should have option to update vehicle status in specific category by authorized personnel. e.g. on retrieval of stolen vehicle, system entry should be changed from "Stolen" to "Retrieved". b) System should have option to specify maximum time to retain vehicle • records in specific categories.	
8.	**General Specification**	The system should be capable of generating video and minimum 5 or more snapshots in any of the standard industry formats (. MJPEG, .JPG, AVI, .mp4, .mov etc.) with at least 10 frames per second.	
9.	**Hot listed vehicle**	The system should be able to perform ANPR on all the vehicles passing the site and send alert on detection of any hot listed vehicle. The system should have ANPR/ OCR to address the alpha numeric character of irregular font sizes	
10.	**Central Management Module**	The Central Management Module shall run on the ANPR Central Server in control booth. It should be possible to view records and edit hotlists from the Central Server	
11.	**Traffic Analytics**	Supplier to propose the following Traffic analytics, LPU based 1. The system shall detect the color of all vehicles in the camera view during daytime and label them as per the predefined list of configured system colors. The system shall store the color information of each vehicle along with the license plate information for each transaction in the database. 2. The system shall have options to search historical records for post event analysis by the vehicle	

		color or the vehicle color with license plate and date time combinations. 3. The system shall classify the vehicles in minimum 3 categories (2-3 Wheelers, LMVs and HMVs) on best efforts basis as per visibility of vehicle 4. Vehicle counts, Average speed and Wrong way detection 5. Traffic congestion data through ANPR FOV and 3rd party sources on GIS maps and travel time analytics 6. No helmet and triple riding detection shall be evaluated as part of the solution based on accuracy levels (85% or above) at the time of PoC. The Supplier needs to design the solution accordingly. 7. ANPR shall be capable to detect Vehicle counts, Average speed and Wrong way detection.	

By meeting these functional specifications, the ANPR system will significantly enhance traffic enforcement capabilities, ensuring accurate and efficient identification of vehicles for improved road safety and compliance.

b) Speed Violation Detection (SVD) – Radar Based

The objective of the Speed Violation Detection (SVD) system, integrated with the ANPR system, is to capture the number plates of vehicles exceeding the permissible speed limit. This system is a crucial part of the Integrated Road Safety Enforcement System (IRSES) for enhancing traffic enforcement and safety.

Functional and Technical Specifications for Speed Violation Detection (SVD) – Radar Based

1. **Objective and Functionality**:
    - The SVD system shall capture number plates of vehicles moving above the permissible speed limit.
    - It will enable monitoring of vehicle flow at deployed locations for traffic violations and generate alerts.
2. **Traffic Alert System**:
    - Detect over-speeding violations and store violation transactions with time-stamped images for evidence.

- Generate alerts for detected violations and dispatch them to the control room in near real-time.
- Export violation transactions to the command control server or challan generation software for further processing.

3. **24x7 Unattended Operations**:
   - The system shall be designed for continuous, unattended operations throughout the day and night.
4. **Detection Technology**:
   - Utilize 4D radar-based detection for over-speeding violations without the need for physical sensors like induction loops or pressure sensors.
   - Ensure high accuracy in speed detection during both day and night.
5. **Speed Detection and ANPR Integration**:
   - Detect the speed of all vehicles using radar technology.
   - Extract license plate numbers in real-time using ANPR cameras.
   - Display recognized license plate numbers along with the detected speed of the vehicle.
   - Store each transaction in the database with complete details.
6. **Real-Time Processing and Data Storage**:
   - Ensure that speed detection and license plate recognition occur online in real-time.
   - Maintain a robust database to store all violation transactions, including time-stamped images and vehicle speed.

S.No.	Description	Compliance (Y/N)
	Make	
	Model	
1.	The system should be equipped with a ANPR camera system & 4D Radar sensor to record a digitized image/ video frame of the violation, covering the violating vehicle without any dependencies on image, quality of number plate data	
2.	With reference to latest G.S.R and amendment in section 167 of Central Motor Vehicle Rule,1989, the electronic enforcement device used for issuance of a challan shall have an approval certificate from nominated government agencies. Proposed Speed measurement system should have an accuracy of more than 200 Kmph +/- 1 %. Certificate from ARAI as per latest GSR guidelines August 2021 shall be submitted along with bid.	

S.No.	Description	Compliance (Y/N)
3.	The certification for the accuracy of speed measurement should be from the approved Govt. body from Govt of India Accredited bodies as per CMVR Rule 126 (GSR 136 E). Certifications shall be provided for the complete system (Radar+LPU+ANPR) and not individual components like laser / radar etc. The system should be calibrated for accuracy prior to handing over and the successful Supplier should ensure annual calibration of the system. The speed sensor OEM should have proper certifications or approvals in accordance to frequency approvals in India.	
4.	The system should be able to capture the number plate in night with the help of external IR illuminator and shall be Eye & skin Safety certified along with test report as per IEC-62471 standard from lab of international repute. The speed sensors should be such that they should work in day & night, dawn and dusk, fog, rain, dust and should not require cleaning for obtaining traffic data.	
5.	The system should generate an automatic alert in case of a speed violation	
6.	The system should have the capability to classify the vehicle under categories such as car, two-wheeler, heavy vehicle in all complete darkness and FOGGY weather	
7.	The system should allow the operator to set different speed limits for different categories of vehicles	
8.	The event window should show the video associated with the event. The window should also show at least five snapshots associated with the event	
9.	The system should allow the operator to flag the event for storing the event perennially	
10.	Speed sensor should provide speed of vehicle in all light conditions, Foggy weather	
11.	The system should be capable of capturing multiple infracting vehicles simultaneously in defined lanes at any point of time simultaneously with relevant infraction data like: a. Type of Violation b. Speed of violating vehicle c. Notified speed limit d. Date, time, Site Name and Location of the Infraction e. Registration Number of the vehicle through ANPR Camera system for each violating vehicle.	
12.	The system shall provide the No. of vehicles infracting simultaneously in each lane. The vehicles will be clearly identifiable and demarcated in the image produced by the system	
13.	It should be capable of importing violation data for the Operator for viewing and retrieving the violation images and data for further processing. The programme should provide for sort, transfer & print command	
14.	It should generate the photograph of violations captured by the outstation system which include a wider view covering the violating vehicle with its surrounding and a closer view indicating readable registration number plate patch of the violating vehicle or its web link on notices for court evidence	

S.No.	Description	Compliance (Y/N)
15.	All outstation units should be configurable using the software at the Central location	
16.	Violation retrieval could be sorted by date, time, location and vehicle registration number and data structure should be compatible with RTO data base structure	
17.	The operator at the back office should be able to get an alarm of any possible fault(s) at the camera site (outstand) (e.g. sensor failure, camera failure, failure of linkage with traffic signal, connectivity failure, etc	
18.	The automatic number plate recognition Software should be part of the supplied system, or can be provided separately as add on module to be integrated with violation detection. Success rate of ANPR will be taken as 90% or better during the day time and 80% or better during the night time on standard number plates	
19.	Image zoom function for number plate and images should be provided.	
20.	The application software should be integrated with the RTO software for tracing the ownership details of the violating vehicle and issuing/printing notices.	
21.	Various users should be access the system using single sign on and should be role based. Different roles which could be defined (to be finalized at the stage if SRS) could be Administrator, Supervisor, Officer, Operator, etc	
22.	Apart from role-based access, the system should also be able to define access based on location	
23.	Rights to different modules / Sub-Modules / Functionalities should be role based and proper log report should be maintained by the system for such access	
24.	The architecture must adopt an end-to-end security model that protects data and the infrastructure from malicious and virus attacks using anti-virus and Firewall provisions for security of field equipment as well as protection of the software system from hackers and other threats shall be a part of the proposed system. Proposed speed solution should have Certification of Security Assessment from any CERT-IN empaneled agencies. Same should be submitted along with the bid	
25.	The system should be able to do no helmet and Triple ridding detection for 2-wheelers.	
26.	It should be able to identify the make of vehicle by logo detection.	
27.	Ease of configuration, ongoing health monitoring, and failure detection are vital to the goals of scalability, availability, and security and must be able to match the growth of the environment	
28.	System shall use open standards and protocols to the extent possible	
29.	The user interface should be user friendly and provide facility to user for viewing sorting and printing violations. The software should also generate query based statistical reports on the violation data.	
30.	The data provided for authentication of violations should be in an easy-to-use format as per the requirements of user unit.	
31.	User should be provided with means of listing the invalid violations along with the reason(s) of invalidation without deleting their cord(s).	

S.No.	Description	Compliance (Y/N)
32.	Basic image manipulation tools (zoom etc.) should be provided for the displayed image but the actual recorded image should never change.	
33.	Log of user actions be maintained in read only mode. User should be provided with the password and ID to access the system along with user type (admin, user).	
34.	Image should have a header and footer depicting the information about the site IP and violation details like viz. date, time, equipment ID, location ID, Unique ID of each violation, lane number, Regn. Number of violating vehicle and actual violation of violating vehicle etc. so that the complete lane wise junction behavior is recorded viz. (Speed of violating vehicle, notified speed limit, Speed Violation with Registration Number Plate Recognition facility. Number plate of cars, buses/HTVs should be readable automatically with the OCR feature by the software/interface. There should be user interface for simultaneous manual authentication / correction and saving as well	
35.	Number plate of cars, buses/HTVs should be readable automatically by the software/interface. There should be user interface for simultaneous manual authentication / correction and saving as well	
36.	Interface for taking prints of the violations (including image and above details	
37.	Radar Sensor, ANPR system & LPU shall have single source liability and native integrated to avoid wrong e-challans and better synchronization of vehicle speed with OCR for accurate results.	

By adhering to these functional specifications, the SVD system will effectively enhance the capability to monitor and enforce speed limits, thereby contributing to improved road safety and traffic management.

c) AI-Based Vehicular/Traffic Enforcement System

The AI-Based Traffic Enforcement Analytics is a key component of the Integrated Road Safety Enforcement System (IRSES). This innovative system is engineered to automatically detect and document various traffic offenses, playing a vital role in enhancing road safety through adherence to traffic laws.

Functional Specifications - AI-Based Vehicular/Traffic Enforcement System

1. **No Helmet Detection**:
    - **Requirement**: Identify riders of two-wheelers not wearing helmets.
    - **Functionality**:
        - The system should distinguish between helmets and other headwear such as caps, construction helmets, and turbans, marking non-compliance as “Compulsory helmet rule violation”.
        - The Helmet Absence Violation Detection (HAVD) system should function autonomously, without manual input.
        - The system should capture clear images of the violation and use ANPR to record the license plate number of the violator.

2. **Triple Riding Detection**:
    - **Requirement**: Detect and document instances of triple riding on two-wheelers.
    - **Functionality**:
        - The system should use an algorithm to count the number of riders on a two-wheeler.
        - Identify and document violations where three people are riding a vehicle.
        - Utilize ANPR cameras to detect the violation in real-time and capture the license plate of the violating vehicle.
        - Store detailed records of each violation, including images and license plate information.
3. **Wrong-Way Driving Detection**:
    - **Requirement**: Detect vehicles driving against the flow of traffic.
    - **Functionality**:
        - The system should capture images of vehicles driving in the wrong direction.
        - Utilize ANPR to capture and process the license plates of violating vehicles.
        - Automatically localize the incident and perform Optical Character Recognition (OCR) conversion on the license plates.
        - Maintain a log of all incidents with time-stamped images and vehicle information for enforcement purposes.
4. **Illegal/Wrong Parking Detection**:
    - **Requirement**: Detect vehicles parked in restricted or unauthorized areas.
    - **Functionality**:
        - The system should be non-intrusive and installed at congested junctions to monitor parking violations.
        - Identify and capture multiple instances of illegal vehicle detections (IVD).
        - Use advanced image processing techniques to document violations accurately.
        - Store and transmit data to the control room for further action.
5. **Non-Seatbelt Wearing Detection:**
    - **Requirement:** Detect and document instances where drivers and co-passengers are not wearing seatbelts.
    - **Functionality:**
        - Use advanced sensors and cameras to monitor seatbelt usage in real-time.
        - Accurately identify non-compliance and document violations.

Sr. No.	Description	Compliance (Yes/No)

a.	**No Helmet Detection**	
1.	The video analytic OEM for Vehicular Centric Video Analytics should have ISO 9001:2015,14001:2015 and ISO 27001:2013 certification. The OEM of for Vehicular Centric Video Analytics (Video Analytics) /VS (video Summarization) (Citizen / Vehicular) should have supplied min. 2000 licenses (cumulative) and have presence in at-least 3 smart cities/ITMS/Safe city projects/ government projects.	
2.	The system should be able to identify riders of two-wheelers not wearing helmet. The system should be able to distinguish cap, construction helmet and turbans from helmet and mark it as "Compulsory helmet rule violation". The HAVD system shall function automatically without manual inputs with the following functionality:	
3.	The System should automatically detect two-wheelers in the camera view using video detection, determine the presence or absence of helmets on the rider and the passenger and activate number plate recognition in case of violations. All violations should have image of the rider with clear readable number plate image.	
4.	The system should collectively identify and detect the motor bike, the rider and the pillion (if applicable), helmet for the rider and the pillion and the number plate. The system should be able to differentiate between a helmet and various other conditions such as the bald head, person covering the head with a cap or dupatta or agree, or any other headgear.	
5.	The system shall be able to carry out No helmet function on vehicles travelling up to 220 km/h	
6.	The system shall display the site name, the road name, the date and the timestamp on the violation images. The No helmet back-office system shall be integrated with the e-challan system	
7.	The registration number of all the passing vehicles should be captured by the ANPR module of the No Helmet system and sent to the central system. The registration number will be matched against PUC certificate database by the central system to issue PUC non-compliance violation challans.	
b.	**Triple Riding Detection**	

8.	The triple riding violation system uses an algorithm to detect the number of persons riding a two-wheeler vehicle. The system identifies the vehicle as triple riding violation or rule breaching vehicle. The main objective of this system is to identify that three people are riding the vehicle. It uses automatic number plate recognition cameras to detect the violation. The system is capable of recognizing the license plates in real time when more than two people are riding the vehicle. The ANPR cameras in the field of view of the system provide the violator's license plate number. The main features of this system include.	
9.	Works extensively in 24x7 environment	
10.	Capable of working as independent system. It can further be used as an add on to an existing hardware setup of other systems like ANPR, SVD, RLVD systems, etc	
11.	The system should have the capability to detect the persons riding triple seat on the motor bike. The system should capture the number plate of the motor bike with ANPR and generate an alert with the evidence video.	
12.	The system should be able to detect the No Helmet violation for persons riding in triple ride.	
c.	**Wrong Way Driving Detection**	
13.	System should have the capability to capture image of vehicle driving vehicle against the flow/ reverse direction. System should capture automatic number plate recognition (ANPR) of violating vehicle with auto-localization and OCR conversion. The system should have the capability to capture vehicle image along with Number plate driving in wrong way	
14.	The basic requirements of the system are as follows:	
15.	Video-based system, does not use any inductive loop sensor/radar	
16.	Can be used as either a separate system or as an add-on module with an existing hard-ware setup	
d.	**illegal/ Wrong Parking**	
17.	The non-intrusive system shall be installed at select congested junctions to detect vehicles parked in a restricted place or parked in an unauthorized manner. The system shall identify and capture multiple IVD.	
18.	Can be used as either a separate system or as an add-on module with an existing hard-ware setup	
19.	**POC**	

	Proof of Concept (PoC) will be done to ensure the functionality of the proposed system.	
20.	Proposed Solution manufacture should be in ANPR/ ITMS business, having its own Development, Manufacturing & Service facility in India since past 10 years, with valid Manufacturing License along with PO copies for documentary evidence required	
21.	The ITMS Software Company should have supplied / installed in India minimum 1000 ITMS Licenses including ANPR, RLVD & SVD (cumulative) and 500 Traffic Analytics licenses (No Helmet, Triple Riding, Wrong Way, Free-Left, HMV detection, etc) within last 5 years for any State/ Central Government Department in India. Copies of Purchase Order(s) / Contract Agreement should be submitted.	

d) Functional specification of Central dashboard/TVDS

The Central Dashboard/Traffic Violation Detection System (TVDS) is a pivotal component of the Integrated Road Safety Enforcement System (IRSES), designed to offer comprehensive monitoring, reporting, and management capabilities. This system ensures that various traffic enforcement activities are efficiently tracked and managed through a centralized platform.

Functional Specifications - Central Dashboard/TVDS

1. **Role-Based Access Control**:
   - **Requirement**: Provide access to the system based on user roles.
   - **Functionality**:
     - Define roles such as Administrator, Supervisor, Officer, Operator, etc.
     - Implement access control based on location, ensuring operators can only view data pertinent to their assigned locations.
2. **Hierarchical Data Viewing and Report Generation**:
   - **Requirement**: Support multi-layer hierarchical data structure.
   - **Functionality**:
     - Enable data viewing and report generation across State -> Districts -> Zones -> Police stations -> Junctions -> Cameras hierarchy.
3. **Alarm Integration with GIS Maps**:
   - **Requirement**: Display all alarms on third-party GIS maps.
   - **Functionality**:
     - Integrate with GIS maps including Google, ESRI, etc., for alarm visualization.
4. **Health Monitoring**:
   - **Requirement**: Monitor the health status of cameras on the central dashboard.
   - **Functionality**:
     - Display the current status of cameras using different colors to indicate up/down status.
5. **Integration with Smart City Projects**:
   - **Requirement**: Integrate with existing smart city projects.
   - **Functionality**:
     - Ensure compatibility and integration with at least five different ICCCs platform OEMs.
6. **Inbuilt eChallan Module**:
   - **Requirement**: Include an inbuilt e-Challan module.
   - **Functionality**:
     - Integrate with NIC/VAHAN Database.
     - Utilize for generating challans, currently used in more than five smart cities/ITMS projects.

7. **User Activity Tracking**:
    - **Requirement**: Track user activities throughout the operation.
    - **Functionality**:
        - Allow administrators to export user activity logs for auditing purposes.
8. **Customizable Dashboard Layout**:
    - **Requirement**: Allow customization of the dashboard layout.
    - **Functionality**:
        - Enable users to save their customized views for future use based on their requirements.
9. **Data Presentation and Reporting**:
    - **Requirement**: Support various data presentation formats.
    - **Functionality**:
        - Present data in bar graphs, pie charts, line charts.
        - Support filters like Date/Time, Locations, Violations.
        - Allow comparison of data with previous week/month/year.
10. **Section Speed Monitoring**:
    - **Requirement**: Monitor section speed between two locations.
    - **Functionality**:
        - Enable tracking of average speed between predefined sections to identify speeding violations.
11. **Automated Reports and SLA Monitoring**:
    - **Requirement**: Generate automated reports for SLA monitoring.
    - **Functionality**:
        - Provide a graphical user interface and GIS map to display RLVD, ANPR, camera locations.
        - Generate traffic enforcement data dashboards and reports for device and system performance.
12. **Configurable Traffic Enforcement Platform**:
    - **Requirement**: Ensure configurability based on geography and user levels.
    - **Functionality**:
        - Allow configuration based on the city’s geography and user roles such as operator, supervisor, manager, police station region, department officials, and authority.
        - Define viewing and editing rights with corresponding actions for each user level.
        - Support creation of user-defined and customized dashboards and report formats.

The traffic enforcement platform should be configurable based on geography of the city and the various user level like operator, supervisor, manager, police station region, department officials and the Authority etc. and the viewing and edition rights with corresponding actions for each level should be configurable in the System. The platform should have capability of creating user defined and customized dashboards and report formats.

Sr. No.	Description	Compliance (Yes/No)
1.	For viewing, controlling, and managing the installed traffic components which includes RLVD, ANPR, SVD system.	
2.	Helpdesk, dashboards and reporting functionality of traffic enforcement system.	
3.	Generate Notification, Alert and Alarm messages that should be visible within the Platform. All system messages (notifications, alerts and alarms) should always be visible from the Notifications view, which provides controls that operator can use to sort and filter the messages that it displays for traffic enforcement system.	
4.	The System shall have the capability to add certain vehicles as hot-list vehicles and the Central application shall be able to trace the path taken by these hot-listed vehicles and notify respective police jurisdiction officers.	
5.	Report Generation - Central application shall have the capability to generate custom reports on the fly, without any development effort.	
6.	Centralized Management Information System (MIS) as a part of the IT solution for faster decision-making in traffic emergencies such as heavy rainfall, accidents, terrorist attack, VVIP movements etc. The CMS platform shall demonstrate a use case for each of the above scenarios.	
7.	The CMS shall have the capability to seamlessly integrate with social media platforms such as Facebook & Twitter to post pre-generated automatic response plans directly from the CMS Application.	
8.	The proposed system should have the capability to transfer the data to Central Command Center through proper encryption in real time. Proposed application for traffic violation detection system should adhere to National Cyber Security Policy to ensure that the critical information processed and stored by the proposed application is secure from cyber- attacks / hacking / hijacking. Supplier should submit a certificate for encryption & vulnerability assessment of “Local” as well as “Central” application on the name of ITMS OEM, from CERT-In empaneled testing agency in India, in support of above. ISO 27017 : 2015	

9.	The proposed ITMS and other software OEM should be CMMi 3 / CMMi 5 certified. The same will be verified on https://cmmiinstitute.com/pars/?StateId=e0bcd081-63d7-4caf-9633-21d4e738742c. Supplier to submit the documents accordingly along with the bid.	

e) Video Management Software with Camera Licenses

The Video Management Software (VMS) with Camera Licenses is an essential part of the Integrated Road Safety Enforcement System (IRSES). It integrates physical security infrastructure with IP network-based operations, enabling comprehensive management of the entire surveillance system. This system provides police station users with rapid access to relevant information for effective analysis and decision-making.

Functional Specifications - Video Management Software (VMS) with Camera Licenses

1. **Integration of Physical Security Infrastructure**:
   - **Requirement**: Integrate various components of physical security into a unified system.
   - **Functionality**:
     - Use the IP network as the platform for managing surveillance infrastructure.
     - Ensure seamless integration of cameras, sensors, and other security devices into the VMS.
2. **Centralized Management**:
   - **Requirement**: Centralize the management of the entire surveillance system.
   - **Functionality**:
     - Provide a central dashboard for monitoring and managing all connected cameras and devices.
     - Enable centralized configuration, maintenance, and updates of the surveillance system.
3. **Rapid Access to Information**:
   - **Requirement**: Allow police station users quick access to relevant surveillance information.
   - **Functionality**:
     - Enable users to quickly retrieve video footage and data for analysis.
     - Provide tools for real-time video monitoring and playback of recorded footage.
4. **Scalability and Flexibility**:
   - **Requirement**: Ensure the VMS can scale and adapt to growing surveillance needs.
   - **Functionality**:
     - Support a scalable architecture that can accommodate additional cameras and devices as needed.

- Provide flexibility to integrate with various types of cameras and security equipment.

5. **Advanced Video Analytics**:
   - **Requirement**: Incorporate advanced video analytics for enhanced surveillance capabilities.
   - **Functionality**:
     - Utilize AI-driven analytics to detect and alert on specific incidents, such as motion detection, intrusion, and loitering.
     - Provide tools for analyzing video footage to extract valuable insights.
6. **User-Friendly Interface**:
   - **Requirement**: Provide an intuitive and user-friendly interface for operators.
   - **Functionality**:
     - Ensure the VMS interface is easy to navigate, allowing users to quickly access and manage surveillance data.
     - Provide customizable views and dashboards tailored to user roles and preferences.
7. **Security and Access Control**:
   - **Requirement**: Implement robust security measures and access controls.
   - **Functionality**:
     - Ensure secure access to the VMS with role-based permissions and user authentication.
     - Protect surveillance data with encryption and secure communication protocols.
8. **Integration with Other Systems**:
   - **Requirement**: Ensure interoperability with other security and traffic management systems.
   - **Functionality**:
     - Enable integration with existing smart city platforms, traffic enforcement systems, and other relevant technologies.
     - Support data sharing and interoperability between different systems and platforms.
9. **Licensing and Compliance**:
   - **Requirement**: Manage camera licenses and ensure compliance with legal and regulatory standards.
   - **Functionality**:
     - Track and manage licenses for all connected cameras and devices.
     - Ensure compliance with local and international surveillance regulations and standards.
10. **Maintenance and Support**:

- **Requirement**: Provide ongoing maintenance and support for the VMS.
- **Functionality**:
  - Offer technical support and regular updates to ensure optimal system performance.
  - Implement preventive maintenance schedules to minimize downtime and ensure system reliability.

S. No.	Technical Specification of Video Manager System	Compliance (Y/N)
1	The Software shall be Scalable, Client Server based, Enterprise level capable to handle at least 5000 cameras in the same system by adding camera license and server.	
2	The Offered VMS Software should be ONVIF Compliant. The Declaration of ONVIF shall be available on ONVIF Official Website www.onvif.org in the Conformant Devices. VMS OEM to Submit a Valid Certificate to Substantiate the Proof.	
3	The OEM shall have existing ONVIF membership for open integration with 3rd party system / devises integration to meet project objective and functionality.	
	Recordings	
4	Should record H.264 / H.265, MPEG4 or MJPEG in at minimum 25 fps at minimum Full HD (1080p) resolution for 30 days	
5	In case Supplier is offering Cloud services, then, facility of hot Storage for 7 days and cold storage for 23 days /remaining days of the month at Cloud to be provided	
6	Supports RTP over UDP, RTP over TCP and http streaming	
7	Should support multiple brand IP camera and encoders	
8	Should support dual streaming and recording at different qualities of videos	
9	Option to do recordings on NAS, iSCSi, DAS, local or network drive. Defining different drive for each individual camera	
10	Should have ability record audio along with video in same recording file.	
11	Option to define multiple recording paths	
12	Pre-buffer and Post buffer recordings up to 20minutes	
13	Calculate storage size based on number of cameras, days and drives available in the system at full resolution and frame rate.	
14	Option to record at low frame rate in no-alarm condition, and at high frame rate in alarm condition, with post-alarm high frame rate recording interval setting up to 5 mins, configurable independently for each of the cameras.	
15	Export recordings in .avi / .mp4 formats. Must be playable in any OS Windows or Linux or Unix or Apple Mac	
16	Export recording possible in client and remote PC also with proper authentication	

17	Option for Window-Pop up, Email, Sound alarm on recording or video loss	
18	The VMS software should be able to move one or more PTZ cameras to pre-configured presets, when an alarm is received from any source. The source can be any fixed camera or any PTZ camera or any external alarm source. It should be possible to link any preset from any PTZ camera to specific type of alarm from specific source. It should be possible to configure different preset and/or different camera when same type of alarm from another source is received.	
18	Storage and Bandwidth calculation: Recoding size estimation for each hard disk attached to the server. Option to check disk size of individual camera	
19	Image Enhancement on recorded videos. The image enhancement should be able to enhance videos of fog, rain and low light conditions	
20	The option of email and Video Pop up on Low disk space event. The system should alert user on low disk space event	
21	Automatic archiving after set number of days and automatic recording deletion after disk full	
22	The software should comply that all client to server and server to server communications are compressed and encrypted and connection specific key should be 256 bit AES and data encryption should be 256 bit AES.	
23	VMS software should have the Encryption algorithm of 1024 / 1096-bit RSA and hashing of SHA -512 for tamper proof data.	
24	The exported video should be saved in AVI / MP4 with option to digitally sign the exported video files; to allow verification of exported video files, to confirm files are non-tampered , at any time	
25	In the event of failure of connectivity to the central server the camera shall record video locally on the SD card automatically. After the connectivity is restored, VMS shall support these recordings to be automatically merged with the server recording such that no manual intervention is required to transfer the SD card based recordings to server.	
	Live, Playback & PTZ	
26	Live View possible for up to 144 live videos and up to 64 playback videos simultaneously on 1 screen or multiple monitors using software video wall.	
27	VMS software should support using 2 simultaneous streams from the camera, and automatic switching to high resolution stream in full screen mode. VMS software should intelligently capture any of the 2 streams from the camera, only when required, to use minimal resources.	
28	VMS server software and VMS client software should support capturing multicast streams from the cameras. VMS client software should support option to capture live video from VMS server OR from camera.	
29	It should support live view and Playback from minimum 10 clients- Both local and remote	
30	**Customized camera views based on:** ● User input number of cameras. ● User chosen shape and size.	

	● View sequencing with user driven time interval. ● Configure and use onemore customized camera views? with user defined rows and columns in the customized camera view, and ability to merge any nearby cells to allow one or more bigger size hot-spots in the customized camera view.	
31	**Pan, Tilt and Digital Zoom** ● Both complete live picture and Zoomed picture should be visible simultaneously while zooming. ● Should be available On Live and Playback Videos. ● Zoom available on snapshots too. ● Digital PTZ focus indicator which indicates region from full camera view, which is currently displayed in digitally zoomed video.	
32	**PTZ** ● PTZ option available through mouse and joystick ● Gaming joystick as well as PTZ joystick options available ● On screen PTZ control with Click and Zoom facility ● PTZ presets and tours setting	
	The VMS software should support 'magnification glass/Digital Zoom' feature for fixed cameras as well as PTZ cameras. It should be possible to activate magnification glass to view specific region of the video with higher zoom level. The 'magnification glass' can be enabled for any camera, on any client workstation, as per operator requirement. The magnification glass region should move along with mouse cursor, when enabled. The 'magnification glass/digital zoom' should not affect the video recording, video recording will be as per the original video stream from the related camera.	
33	Live view and Playback available at the same time	
34	Instant Playbacks available as window pop up onclick of an event from E vent Screen	
35	Image Enhancement Analytic available in Playback. Option to sharpen the video image, adjust brightness, adjust contrast, switch to black and white or color, edge detection on/off, add custom text, print support.	
36	Playback Navigation View with Recording server, camera list, and calendar view displaying recorded video availability for each day in the calendar, 24 hour time-line indicating recorded video availability and detailed 10 mins time line indicating recorded video availability. Clicking on any of the timelines allows video playback from the time stamp associated with the point of click on the time line.	
38	E-map should support map presets, allowing users to switch to specific region within the mapE-map from different sources should support using multiple images and quick access links to switch from one image to other map preset of another imageE-Map should support displaying area of camera view coverage on the map.	
39	Two-way audio communication between camera and VMS. Option to send/broadcast Audio to multiple cameras	
41	VMS OEM should have ISO latest certificates: ISO9001:2015 / 27001	
	Web based Mobile Surveillance & Remote Viewing	
42	Ability to view live video on iOS and Android phones or devices with or without installing proprietary Apps.	

43	Ability to receive alerts on Mobile phones with SMS	
44	PTZ Control on Mobile App and Remote Locations	
45	VMS and Mobile App support for multiple sites spread across WAN to be controlled and viewed from central location.	
46	Remote Administration over internet.	
	Streaming	
48	Option for RTSP, HTTP, RTSP over HTTP streaming or both simultaneously at individual camera level.	
49	Option to Trans code to lower bit rate stream at recording server level.	
50	Authentication parameters (username, password) for streaming to remote clients.	
	Administration & Fail over	
51	Automatic discovery of devices using UPnP and/or ONVIF	
52	No software limit on number of cameras supported in single recording server	
53	Add all cameras with single click. Apply settings to multiple cameras of same model with single click.	
54	**Fail over-** Automatic switch to back- up server in case of failure of primary server. Time limit of fail over for server, recordings and client should not be more than 60 seconds. When primary server is online, all recordings from fail over server should be automatically synchronized with primary server The fail over management should be managed natively from the VMS software, without dependency on OS features like clustering VMS software should support 1:N fail over configuration, where one fail over server can monitor one or more primary servers; and take up processing when any of the primary servers fail.	
55	Automatic Health check-up and VMS should always run fully optimized, to ensure no loss of functionality.	
56	Add multiple recording servers under same management server.	
57	User role-based cameras and feature access. Define users with passwords and access to only specific cameras and to only specific type of alarms Support for user profiles and policies like periodic password expiry, locking user on pre-defined number of successive failed login attempts .	
58	Complete server logs including login access, system settings change, archiving events, video or recording loss and all activity done by administrator or any other user in the system. VMS software should be able to capture all edge based analytics alarms supported by the camera; and add these to VMS alarms database. All alarm handling configuration should be available for these alarms, similar to any other native alarms generated by the VMS Watchdog for monitoring VMS processes and identifying any issues and resolving them. Any issues observed, which are outside VMS software control (eg. offline cameras, offline servers, network loss, storage failure, incorrect configuration etc.) should be displayed as system notifications? The system notification? window cannot be closed by the operator. Any system notification? should be	

	removed automatically from the list, when the related issue is resolved. Automatic daily back up of VMS configuration. It should be possible to use this configuration back up to restore the configuration, in case of OS reinstallation on the computer hosting VMS software.	
	User configurable scheduled daily alarm reports generation and scheduled daily alarm reports e- mails to pre-defined recipients.	
	VMS software should allow use of multiple sub- networks ? a) Input sub-network ? cameras and VMS servers(b) Output sub-network ? VMS servers and VMS clients Storage sub-network ? network storage devices and VMS servers	
	The VMS software should use off-line licensing. Internet connectivity should not be required for VMS software license management. The VMS software licenses once activated should remain valid for hardware life, unless hardware/OS is changed / updated, the activated license should continue to function The VMS software licenses should be linked with computer hardware on which VMS software is hosted. The VMS software license should NOT be linked with the camera devices, to ensure cameras can be replaced any time, as and when required.	
	Camera Device Support	
59	Should support multiple brand IP camera, encoders and DVRs. No restriction on camera hardware.	
60	VMS should be capable to integrate community surveillance cameras of any make and type; as long as the cameras are ONVIF Profile S, G and T certified. Viewing, and record retrieval capabilities from ICCC via edge gateway should be possible if required in future at no extra cost. VMS software API / SDK should be available for the same, and integration will be in ICCC scope through VMS software API/SDK.	
61	The Offered Video Management Software (VMS) Application should Valid Application Audit Certificate from a CERT-IN Empaneled Agency for the VMS Application, to Mitigate Cyber Security Attacks. The Application must have already undergone Audit Certification/Auditing on or before the Bid Publishing Date. The Audit Certificate must be Submitted as a Documentary Evidence/Proof.	

By incorporating these functional specifications, the Video Management Software (VMS) with Camera Licenses will enhance the capability to manage and operate a comprehensive surveillance system effectively. This will enable police station users to access and analyze relevant information quickly, contributing to improved security and law enforcement.

f) Video Analytics Software

The Video Analytics Software is a critical component of the Integrated Road Safety Enforcement System (IRSES), designed to significantly enhance surveillance capabilities by detecting and analyzing a variety of objects and activities within monitored areas. This advanced software facilitates comprehensive monitoring and enables rapid response to potential security threats and traffic violations.

g) Functional Specifications:

1. **Abandoned Objects Detection:**
    - **Requirement:** Identify objects that have been left behind in monitored areas, with a focus on potential threats.

- **Functionality:**
  - Detect and alert on objects left unattended in high-security areas.
  - Provide sensitivity to small objects, such as lighters or pocket knives, to mitigate potential threats.

2. **Improper Parking Detection:**
   - **Requirement:** Identify vehicles that are parked in unauthorized areas or in ways that cause traffic congestion.
   - **Functionality:**
     - Detect and alert authorities about vehicles parked improperly in designated zones.
     - Monitor for immobilized vehicles that may cause disruptions or safety hazards.
3. **Comprehensive Object Detection:**
   - **Requirement:** Real-time detection of various objects and activities within the scene.
   - **Functionality:**
     - Identify people, vehicles, and other relevant objects.
     - Monitor highways and alert relevant authorities about immobilized vehicles or illegal activities, such as graffiti or unauthorized disposal of garbage.
4. **Scenario-Based Detection:**
   - **Requirement:** Adapt detection algorithms to different scenarios.
   - **Functionality:**
     - In high-security areas, detect abandoned or dangerous objects.
     - In exhibition spaces, detect the removal of valuable items.
5. **High Sensitivity and Precision:**
   - **Requirement:** Ensure that detection algorithms are highly sensitive and precise.
   - **Functionality:**
     - Utilize algorithms capable of detecting minute changes, even in cases of camera shake.
     - Maintain focus on detecting scene changes without interference from background noise.
6. **Real-Time Alerts and Notifications:**
   - **Requirement:** Provide immediate alerts for detected activities or objects.
   - **Functionality:**
     - Generate real-time alerts for suspicious activities such as abandoned objects and improper parking.

        - Send alerts to a central dashboard and notify relevant authorities for prompt response.

7. **Integration with VMS:**
    - **Requirement:** Ensure seamless integration with the existing Video Management Software (VMS).
    - **Functionality:**
        - Maintain full compatibility with the VMS for centralized management.
        - Provide a unified interface for monitoring and management through the VMS.
8. **Data Logging and Evidence Collection:**
    - **Requirement:** Maintain detailed records of detected incidents for enforcement and legal purposes.
    - **Functionality:**
        - Store time-stamped images and video footage of detected activities.
        - Ensure data integrity and security for use in legal or enforcement actions.
9. **User-Friendly Interface:**
    - **Requirement:** Provide an intuitive and easy-to-navigate interface for operators.
    - **Functionality:**
        - Allow operators to configure detection parameters and view alerts easily.
        - Offer customizable dashboards and views tailored to specific user roles.

h) Surveillance Analytics

The AI-Based Graffiti and Vandalism Detection feature aims to proactively detect and respond to graffiti and vandalism incidents through real-time monitoring and alerts. By utilizing advanced video analytics, the system analyzes live feeds to identify suspicious activities and immediately notifies security personnel or authorities. This not only prevents property damage but also contributes to a safer and cleaner environment. Additionally, the system extends its capabilities to various other use cases:

- **Abandoned Object Detection**
- **Crowd/Vehicle Density Analysis**
- **People/Vehicle Counting**
- **Object Detection & Classification (Person/Vehicle)**
- **Attribute-Based Search Analytics**
- **Enhancing Women's Safety**

These features collectively ensure a comprehensive solution for a safer and more secure public space, supporting the overall goals of the IRSES project.

Sr. No.	Minimum Technical Specifications	Compliance (Yes/No)
1.	Detects abandoned objects or any new object in the scene by comparing the current image to a background model	
2.	Detection using grid-based analysis (using cues at multiple scales for analytics)	
	Suitable for both indoor and outdoor use thanks to flexible background modelling:	
	Static: static reference image	
	Indoor: learning model with up to 10 different illumination states this allows to adapt to fast lighting changes such as switching on/off of lights	
3.	Outdoor: foreground detection based on edge detection rather than color this allows heavily changing lighting conditions like clouds temporarily blocking sunlight	
4.	Detection zone and perspective (near & far object size) can be configured on screen using a point-and-click interface	
5.	Supports an unlimited number of detection areas (each with its own zone and settings)	
6.	Monitors object size: little fluctuations are ignored (e.g. a door of a car opening). The alarm conditions can be defined by relative object size (min and max) and minimum dwell time	
7.	No calculation on the camera necessary, completely server- based	
8.	Independent of camera manufacturer due to open interfaces	
9.	Visualization can be provided as an MPEG4 RTSP stream to be integrated into any VMS just like any other camera	
10.	System should support most security management systems via API using metadata in XML or JSON format	
11.	System should support internal SSL in order to prevent tapping or any other kind of IP-based manipulation	
12.	System should support video formats in any resolution (from CIF to Full HD and more): H.265 / H.264 / MPEG-4 / MxPEG / H.263+ / M-JPEG / JPEG 2000	
13.	System should support automatic check of hard disk and server status as well as connections to cameras and triggers events by email if any problem is detected	
14.	System should support self-contained analytics modules. Support any particular stream to be processed by several modules	

	· Minimum resolution: 320 x 240 px	
	· Minimum frame rate: 1 fps	
	· Minimum object size:	
	Constant conditions (e.g. Elevator): 5 x 5 px	
15.	Indoor: 20 x 20px	
	Outdoor: 40 x 40px	

By incorporating these functional specifications, the Video Management Software (VMS) with Camera Licenses will enhance the capability to manage and operate a comprehensive surveillance system effectively. This will enable police station users to access and analyze relevant information quickly, contributing to improved security and law enforcement.

i) Technical Specifications – ANPR Camera

Technical Specifications – ANPR Camera			
S. No.	**Parameter**	**Specification**	**Compliance (Yes/No)**
1.	Video Compression	H.265 or above	
2.	Video Resolution	2592 X 1944 or better	
3.	Frame rate	2592x1944 @25/30 FPS & 1920x1080 @ 50/60 FPS	
4.	Operating frequency	50 Hz	
5.	Image Sensor	1/2.8" CMOS Progressive 5.0 Megapixel	
6.	Lens Type	C/CS mount	
7.	Lens	5~50mm/ 8~50mm/ 12~50mm	
8.	Electronic Shutter	1/5 to 1 / 50,000 s or better	
9.	Multiple Streams	The Camera shall be able to set up and stream out a minimum of four (4) stream profiles simultaneously. Each stream profile can have its own compression resolution, frame rate and quality independently. Should support Minimum 1st Stream at 5 Mega Pixel and min. one other stream at 2 Mega Pixel.	
10.	Minimum Illumination	Color: 0.001 lux @ F1.6, B/W: 0.002 lux, 0 Lux (External IR LED ON)	
11.	IR Cut Filter	Automatically Removable IR-cut filter	
12.	Day/Night Mode	Yes, with IR Cut Filter.	
13.	S/N Ratio	≥ 5 dB	
14.	Auto adjustment + Remote Control of Image settings	Brightness, sharpness, contrast, white balance, exposure control, backlight compensation, Gain Control, 3DNR, HLC, Defog, ROI, Scheduled profile settings & video title and time stamp overlay	
15.	Wide Dynamic Range	True WDR 120 db or better	
16.	Privacy Masks	Minimum 4	
17.	Audio	Full duplex, line in and line out, G.711/ G.726, External microphone input, External line output	

18.	Local storage	The Camera should support Minimum 256 GB. In the event of failure of connectivity to the central server the camera shall record video locally on the SD card automatically. After the connectivity is restored, these recordings shall be automatically merged with the server recording such that no manual intervention is required to transfer the SD card based recordings to server.	
19.	Protocol	IPv4, IPv6, ICMP, TCP, UDP, DHCP, PPPoE, RTP/RTSP/RTCP, DNS, DDNS, NTP, FTP, UPnP, HTTP, HTTPS, SMTP, 802.1x, SNMP, Multicast, SSL/TLS1.2, ONVIF Profile S, G & T	
20.	Security	Password Protection, IP Address filtering, User Access Log, HTTPS encryption, IEEE 802.1X network access control	
21.	Intelligent Video	Motion Detection, Camera Tampering, Loitering, Line crossing, Intrusion and Human & Vehicle detection	
22.	Event Trigger	Camera tampering detection, digital input, manual trigger, motion detection, SD card full	
23.	Event Action	Event notification via digital output, email, HTTP, FTP, SD card File upload via email, HTTP, FTP, SD card	
24.	Alarm I/O	Minimum 1 Input & 1 Output contact for 3rd party interface	
25.	Operating conditions	As per city Ambient conditions in all seasons	
26.	Interface	RJ 45, 100 Base TX	
27.	Humidity	Humidity 10-95% RH (condensing)	
28.	Casing/ Housing	IP66/IP67, IK10, NEMA 4X or higher	
29.	Certification	UL 62368-1, CE, FCC, RoHS & BIS	

		Note: In case of Make in India Product UL certification is not required, however, MII product should have a certification from a NABL approved lab with equivalent IEC standard (IEC 62368-1) before the date of publishing of the RFB.	
30.	Power	PoE IEEE 802.3af/ POE+ IEEE 802.3at and 12VDC/24AC/24VDC	
31.	IR illuminator	External Illuminator with 100 mater range to be used as given in Illuminator specifications	
32.	Warranty	5 years OEM Warranty with 24X7 support and Next Business Day (NBD) resolution.	

j) Technical Specifications - IR Illuminator

Technical Specifications - IR Illuminator		
Sr. No.	**Description**	**Compliance (Yes/No)**
1.	Type: External IR illuminator with high performance LED (42 pcs high brightness IR LED), high efficiency, energy saving and environmental protection.	
2.	Wavelength: ≥850 nm (Infrared)	
3.	Illumination Range: minimum 50 mtrs	
4.	Environment Protection: IP66 or better	
5.	IR Power: 80 W	
6.	Adjustable angle to appropriately focus at the number plate. Beam Angle: multiple options- 10 degree (standard), 15, 30, 45 degrees	
7.	Surge level: Common mode 6KV, Differential mode: 3 KV	
8.	Certifications: CE, FCC, RoHS, IK10, Eye & Skin Safety	
9.	Protection function: Transient over peak suppression	
10.	Housing material: Die-casting aluminium alloy	
11.	User Interface: RS485	
12.	Proposed IR Illuminator should be IEC-62471 certified form international LAB. Valid test report should be submitted along with bid	

13.	The 5-year OEM Warranty (24x7 support, NBD resolution) and MAF will be submitted for project and warranty documentation.	

k) Fixed/Bullet Camera

SL.No	Parameters	Specification	Compliance Yes/No
1.	Video Compression	H.265+, H.265, H.264, MJPEG or better	
2.	Video Resolution	1920 X 1080	
3.	Frame rate	1920x1080, 1280x720p @ 50/60fps	
4.	Image Sensor	1/2.8" CMOS Progressive 5.0 Megapixel	
5.	Lens Type	5 ~ 50 mm Motorized Lens	
6.	Iris	Fixed Auto Iris	
		Bracket; Pan 0~360°, Tilt 0~90°, Rotate 0~360°	
7.	Minimum Illumination	Color: 0.001 lux @ F1.6, B/W: 0 lux with IR	
8.	IR Cut Filter	Automatically Removable IR-cut filter	
9.	Day/Night Mode	IR Cut Filter with Auto Switch	
10.	S/N Ratio	≥55 dB	
11.	FEATURES	Smart IR up to 100 m	
		ONVIF Profile (S, G, T), Quad Stream	
		PoE, IP67, IK10	
12.	Audio	Audio Capture Capability	
13.	Local storage	Should Support minimum 256 GB Memory card in a Memory card slot and support	
		Automatic Network Replenishment (ANR) feature.	
14.	Protocols	TCP/IP, UDP, IPv4, IPv6, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, DDNS, RTP, RTSP, RTCP, PPPoE, NTP, UPnP, SMTP , IGMP, 802.1X, Unicast, Multicast, QoS, ARP, SNMP, Telnet, SSL/TLS1.2	

15.	Security	TLS 128 Encryption, IP Filter, User Authentication (Multiple Privilege Level), 802.1X Authentication (EAP-MD5), HTTPS Authentication, RTSP Authentication, Digest Authentication, User Access Log	
16.	Behavior Detection	Camera should support Intrusion (Perimeter), Crossline (Tripwire), Double Crossline (Double Tripwire)	
17.	Intelligent Identification	Camera should support Loitering, Multi Loitering, Abandoned Object (Object Left), Missing Object (Object Lost)	
18.	Statistical Analysis	Face Detection, People Counting, Human & Vehicle Detection, Abnormal Video & Audio Detection, Wrong Way Detection, Illegal Parking, Tampering / Masking / Scene Change, Abnormal Speed	
19.	Warranty	The 5-year OEM Warranty (24x7 support, NBD resolution) and MAF will be submitted for project and warranty documentation.	

l) Technical Specifications- Local Processing Unit

Technical Specifications - Local Processing Unit		
Sr. No.	**Technical Specifications**	**Compliance (Yes/No)**
1.	Local Processing Unit shall be of Aluminum Alloy Casing	
2.	Local Processing Unit shall be of minimum Intel core i7, 12th Generation or better.	
3.	It should have 7 nos. LAN, 16 Bit DIO, SATA, 4 COM, 6-48V DC Wide Voltage Input	
4.	It shall support GPU Intel® HD Graphics 630 min.	
5.	Memory- DDR5 4800 MHz SODIMM, up to 32 GB	
6.	Display Port- 1 nos. VGA, 1 nos. HDMI, 1 nos. DP	
7.	It shall support Secondary Storage 2×2.5" SATA HDD/SSD Bay	
8.	It shall support USB- 6 nos. USB 3.0 and 2 nos. USB 2.0	

9.	It shall have LAN- 6 nos. Intel I210AT PCIe Gig. Ethernet; 1 nos. Intel I219LM PCIe Gig. Ethernet support iVpro	
10.	Power- Voltage Input: DC6~48V	
	AC Input: External Adapter (Option)	
	Voltage Input: 100VAC~240VAC@50~60Hz	
11.	Temperature- -40°C ~ 85°C	
12.	Certifications- CE, FCC, BIS & MIL 810 G	
13.	It shall withstand vibrations as per 5 grms / 5 ~ 500Hz /in work status (HDD) 1 grms / 5 ~ 500Hz / in work status (HDD)	
14.	It shall withstand shock as per 50 g peak acceleration (duration 11ms) (HDD) 20 g peak acceleration (duration 11ms) (HDD)	
15.	Proposed LPU should be MIL-STD-810G certified and qualify as per Make in India guidelines	
16.	Proposed LPU should be from same ANPR, SLVD, IR OEM for seamless integration & better compatibility.	
17.	The 5-year OEM Warranty (24x7 support, NBD resolution) and MAF will be submitted for project and warranty documentation.	

m) Technical Specifications- Radar System

Technical Specifications - Radar System			
Sr. No.	**Parameter**	**Value**	**Compliance (Yes/No)**
1.	Objects Tracking	Up to 126 Objects	
2.	Lane Coverage	Up to 4 lanes with single sensor	
3.	Detection Range	Up to 300 m	
4.	Speed Detection Range	Up to 230 kmph	
5.	Speed Detection Accuracy	<±1%	
6.	Sensor Frequency	76 - 81 GHz along with valid frequency approval certificate from (WPC - DoT)	
7.	EIRP	Up to 20 dBm	
8.	Measurement	Cartesian (x, y, z) coordinates,	

		Azimuth, Elevation, Speed	
9.	Communication Interfaces	Ethernet, USB, RS 485	
10.	Refresh time	75 MS	
11.	Power Supply	12V DC	
12.	Power Consumption	20W	
13.	Operating Temperature	-20 to 70 ◦ *C*	
14.	Environment Protection	IP67	
15.	Certificate	With reference to latest G.S.R and amendment in section 167 of Central Motor Vehicle Rule,1989, the electronic enforcement device used for issuance of a challan shall have an approval certificate from nominated government agencies.	
		Proposed Speed measurement system should have an accuracy of more than 220 Kmph +/- 1 %, certificate from ARAI as per latest GSR guidelines August 2021.	
16.	Warranty	The 5-year OEM Warranty (24x7 support, NBD resolution) and MAF will be submitted for project and warranty documentation.	

n) Field Firewall

Sr No	**Specification for Firewall**	**Compliance (Yes/No)**
1.	**General Requirement**	
1.1.	Must have a 64-bit hardware platform & based on Multi-Core Architecture with Optimization for excellent throughput for all your key processes	
1.2.	The Proposed solution should have option for visibility into encrypted traffic flows, support for TLS 1.3 without downgrading the performance.	

1.3.	The device should be having security functions like Firewall, VPN (IPsec Site to Site &SSL Client VPN), Gateway level antivirus, Category-based web and application filtering, Intrusion prevention system, Traffic shaping, Cloud Sandboxing, and DoS/DDoS.	
1.4.	Solution should offer with Central management solution with option to manage multiple firewalls from day one. Data Centre should be in india.	
1.5.	On-Site demonstration by Vendor/OEM should be done mandatorily within 3 weeks of bid opening which will be an essential criterion for evaluation of offers technically. Vendors who are unable to demonstrate the solution/product will be summarily rejected.	
1.6.	Solution should support Multiple WAN link balancing multiple Internet connections, auto-link health check, automatic failover, automatic and weighted balancing, and granular multipath rules, should support more than two ISP	
2.	**Hardware & Performance Requirement**	
2.1.	The appliance should support 8*GbE copper ports,1* SFP port and 3G/4G module/5G module	
2.2.	Firewall must support at least 1,600,000 concurrent connections	
2.3.	Firewall must support at least 61,400 new sessions per second of processing.	
2.4.	Firewall should support integrated IPS throughputs of minimum 2.4 Gbps.	
2.5.	Firewall should have a minimum Firewall throughput of 7.6 Gbps.	
2.6.	Firewall should have a minimum NGFW throughput of 2 Gbps.	
2.7.	Firewall should have a minimum IPsec VPN throughput of minimum 4.7 Gbps	
3.	**General Features**	
3.1.	Firewall should support CLI and GUI based access to the firewall modules.	
3.2.	Should support Local authentication and integration with third party authentication solutions like, Active Directory, LDAP Server, RADIUS, TACACS+, eDirectory and Kerberos	
3.3.	Centralized, daily updates, automatic and manual updates or offline update.	
3.4.	Firewall should have Advance Threat Protection (detect and block network traffic attempting to contact command and control servers using multi-layered DNS, AFC, and firewall)	

4.	**Web Filtering**	
4.1.	Firewall should support minimum of at least 90+ predefined categories.	
4.2.	Should have flexibility to create network, user, Web and app-based traffic shaping (QoS) policy.	
4.3.	Exceptions based on network objects defined.	
4.4.	Notification of custom messages or URL redirection.	
5.	**Intrusion Prevention System**	
5.1.	IPS should protect for 7000+ Signatures database.	
5.2.	Firewall should block attacks such as DoS- SYN, IP/ICMP/TCP/UDP related attacks.	
5.3.	Solution should have IPS deep packet inspection engine with an option to select	
5.4.	IPS patterns which can ne applied firewall rule for better protection and should have option to create custom signature	
5.5.	Firewall should block attacks such as DNS cache poisoning, FTP bounce, improper commands.	
6.	**Application Control**	
6.1.	Firewall should have feature to identify, allow, block or limit usage of applications beyond ports and protocols.	
6.2.	Firewall should provide protection against Block potentially unwanted Applications	
6.3.	Application signature database of minimum 3500+ Applications for Application Control	
7.	**SD WAN**	
7.1.	Should have inbuild SD WAN technology with application path selection and routing, which is used to ensure quality and minimize latency for mission-critical applications	
7.2.	The Solution should support performance-based SLAs to automatically select the best WAN link based on jitter, latency, or packet-loss	
7.3.	Should support multiple WAN link options including VDSL, DSL, cable, LTE/cellular/3G/4G/5G, and MPLS	
7.4.	Should provide real-time insights into latency, jitter and packet loss for all WAN links	
7.5.	Should maintain application sessions when link performance falls below thresholds and should make a transition to a better performing WAN link	

7.6.	Should have a central SDWAN Orchestration platform to create Multiple site-to-site VPN tunnels between network locations using an optimal architecture like hub-and-spoke, full mesh, or some combination.	
7.7.	Cloud Orchestration should have wizards for easy and quick creating of VPN Tunnels	
8.	**Logging & Reporting**	
8.1.	Firewall logs must contain information about the firewall policy rule that triggered the log	
8.2.	Firewall must provide at a minimum basic statistic about the health of the firewall and the amount of traffic traversing the firewall.	
8.3.	Firewall should have support to log (in detail) all connections which are blocked or pass through the firewall.	
8.4.	Firewall should have support to generate performance statistics on real-time basis.	
8.5.	Firewall should have the capability to produce report s which measure usage.	
8.6.	Should Support 1000+ drilled down reports on the appliance	
9.	**OEM Criteria**	
9.1.	Proposed solution should have Common Criteria EAL4+	
9.2.	Proposed solution should have Manufacturer Authorization (MAF)	
9.3.	Proposed solution should have MTCTE certification from TEC	
9.4.	OEM Support (TAC) Presence in India	
9.5.	Proposed solution should have Make in India	
9.6.	Should have ISO 9001:2015 or above certificate	
10.	**Licenses**	
10.1.	Five Year Subscription licenses for Firewall, Advanced Threat Protection, Intrusion Prevention System (IPS), Anti-malware, Web and App visibility control, Cloud Sandboxing and protection, 24x7 support, security, and software updates.	
10.2.	Supplier should submit the MAF from the OEM for the Tender participation	

o) Industrial Switch (PoE)

S/N	Parameter	Specification	Compliance (Yes/No)
Make & Model			
1.	Type	• Industrial Grade Layer 2 Managed Ethernet Switch	
2.	Form Factor	• DIN Rail Mount • Mounting Kit to be supplied	
3.	Connectivity	• Min 8 x 10/100 Mbps RJ45 Ports • Min 4 x 1GbE RJ45/SFP Combo (Dual Personality) Uplink Ports • Port Settings – Auto nego, Speed, Duplex, Flow Control • Should support IEEE 802.3af & 802.3at • Should Support min 240W PoE Power Budget on day one • Should support upto 30W PoE+ Output Power per Port • PoE alarm settings	
4.	Performance	• Switching Bandwidth - Min 9.6 Gbps or higher • Packet Buffer – Min 1.5 MBytes or higher • MAC Address Table - Min 16K or more	
5.	Layer 2 Switching	• VLAN - Min 256 VLANs and 4K VLAN IDs • 802.1Q tagging, MAC based, Protocol based, Management VLAN • STP, RSTP, MSTP, Port Mirroring, UDLD • IGMP Snooping, MLD Snooping, Static IP Multicast • DHCP Relay, NTP/SNTP, IEEE 1588 PTPv2	
6.	Redundancy / Resiliency	• 802.3ad Link Aggregation • ITU-T G.8032 ERPS Protocol with sub-50ms convergence • Compatible Chain / Ring • MRP Client	
7.	QoS	• QoS with min 8 Priority Queues • Should support SP and WRR/DWRR • Rate/Bandwidth Control, Storm Control	
8.	Security	• Access Control Lists (ACLs) • IEEE 802.1X Radius Authentication • Port Security, MAC Filtering • ARP Spoofing and DoS Attack Prevention • Dynamic ARP Inspection, IP Source Guard,	

		DHCP Snooping • IEC or equivalent Indian Cyber Security Certification	
9.	Management Features	• Command Line Interface (CLI) • Secured Browser-based Management (HTTPS / SSL) • Telnet, SSH v2, Syslog, SMTP, TFTP • SNMPv1, v2c, and v3, SNMP Trap • SCADA Management, Modbus TCP/IP • Automation & IoT Ready • Link Layer Discovery Protocol (LLDP) • IPv4 and IPv6 ready from day one • Ping, Pingv6, DNS • SMTP – Relay, Alarm and LED	
10.	Physical Characteristics	• Housing: IP30 or better Protection • DIN-Rail (with necessary mounting kit) • LED Indicators – PWR1, PWR2, Alarm, RJ45 and SFP Ports • 2 relay outputs upto 2A current support • Reset button, DIP Switch for Ring • Dual Redundant Power Supply Inputs (AC or 9~48 VDC)	
11.	Environmental Characteristics	• Operating Temperature: -20°C to 70°C or higher • 5% to 95% Relative humidity • MTBF: Min 6,13,200 Hours (10 Years) or higher	
12.	Certifications / Compliance	• UL, CE, FCC, EN 61000-3-2/3, EN 61000-6-2/4 • IEC/EN 61000-4-2/3/4/5/6/8/11 • IP Rating – IP3X (As per IEC 60529) • NEMA TS-2 Certified • Shock & Vibration	
13.	OEM	• OEM & Brand should have direct presence & should be in Active Networking Business for atleast 15+ Years in India Market • OEM & Brand should have own Tech Support in India • OEM & Brand should have own & direct service/repair center in India • All Switches & Transceivers should be from same OEM & Brand for compatibility & ease of management • OEM should be certified for IEC or equivalent cyber security	
14.	COO	• Non-MIC	
15.	Documentation	• Compliance sheet and Datasheet • MAF from Switch & NMS OEM	

16.	Power Supply & Cables	• DIN Rail Mount • Input Voltage Range: 85 ~ 260VAC, 2.5A • Output Voltage: 24 ~ 30V (60W) • Operating Temperature: -20°C to 70°C • Over Voltage & Overload protection • Compliance to Vibration, UL, EMC/EMI • Necessary AC Power Cord, DC Cables, and grounding cables to be supplied	
17.	Warranty, Services and Support	• OEM should have direct & own service/repair center in India • Min 5 years Warranty • Offered model should be brand new and should not have been declared EoS. MAF Required	

p) Transceiver- Single Mode- 1 G

S/N	Specifications	Compliance (Yes/No)
Make & Model		
1	1G Base LR (SM) Transceiver	
2	Distance Support: Min 10Km	
3	Form Factor: SFP, Duplex LC Connector, Hot Pluggable	
4	Enclosure: Metal	
5	MSA Compliant, RoHS	
6	Class 1 Laser, Complies to EN 60825-1	
7	Operating Temperature - -40°C to 85°C	
8	Transceivers should be from same OEM as switch	
9	Documentation – Technical Compliance Sheet, Datasheet & MAF from OEM	
10	Warranty - Min 5 years warranty	

q) Infrastructure Equipment

1.1. Data Center Firewall

Sr No	Specification for Firewall	Compliance (Yes/No)
1.	**General Requirement**	
1.1.	Must have a 64-bit hardware platform & based on Multi-Core Architecture with Optimization for excellent throughput for all your key processes	
1.2.	The Proposed solution should have option for visibility into encrypted traffic flows, support for TLS 1.3 without downgrading the performance.	

1.3.	The device should be having security functions like Firewall, VPN (IPsec Site to Site &SSL Client VPN), Gateway level antivirus, WAF (Web Application Firewall), Category-based web and application filtering, Intrusion prevention system, Traffic shaping, Zero-Day protection, and DoS/DDoS.	
1.4.	Solution should support providing High Availability in Active/Passive mode from day one.	
1.5.	Solution should offer with Central management solution with option to manage multiple firewalls from day one.	
1.6.	Solution should support Multiple WAN link balancing multiple Internet connections, auto-link health check, automatic failover, automatic and weighted balancing, and granular multipath rules, should support more than two ISP	
2.	**Hardware & Performance Requirement**	
2.1.	The appliance should support 8*GbE copper ports, 2* SFP port and 2* SFP+ 10 GbE port	
2.2.	Firewall must support at least 13.5 million concurrent connections	
2.3.	Firewall must support at least 256,000 new sessions per second of processing.	
2.4.	Firewall should support up to 240 GB SATA-SSD	
2.5.	Firewall should support integrated IPS throughputs of minimum 13 Gbps.	
2.6.	Firewall should have a minimum Firewall throughput of 55 Gbps.	
2.7.	Firewall should have a minimum Threat Protection throughput 2.8 Gbps.	
2.8.	Firewall should have a minimum NGFW throughput of 12 Gbps.	
2.9.	Firewall should have a minimum IPsec VPN throughput of minimum 26 Gbps	
3.	**General Features**	
3.1.	Firewall should support CLI and GUI based access to the firewall modules.	
3.2.	Should support Local authentication and integration with third party authentication solutions like, Active Directory, LDAP Server, RADIUS, TACACS+, eDirectory and Kerberos	
3.3.	Centralized, daily updates, automatic and manual updates or offline update.	

3.4.	Firewall should have Advance Threat Protection (detect and block network traffic attempting to contact command and control servers using multi-layered DNS, AFC, and firewall)	
4.	**Web Filtering**	
4.1.	Firewall should support minimum of at least 90+ predefined categories.	
4.2.	Should have flexibility to create network, user, Web and app-based traffic shaping (QoS) policy.	
4.3.	Exceptions based on network objects defined.	
4.4.	Notification of custom messages or URL redirection.	
5.	**Intrusion Prevention System**	
5.1.	IPS should protect for 7000+ Signatures database.	
5.2.	Firewall should block attacks such as DoS- SYN, IP/ICMP/TCP/UDP related attacks.	
5.3.	Solution should have IPS deep packet inspection engine with an option to select	
5.4.	IPS patterns which can ne applied firewall rule for better protection and should have option to create custom signature	
5.5.	Firewall should block attacks such as DNS cache poisoning, FTP bounce, improper commands.	
6.	**Application Control**	
6.1.	Firewall should have feature to identify, allow, block or limit usage of applications beyond ports and protocols.	
6.2.	Firewall should provide protection against Block potentially unwanted Applications	
6.3.	Application signature database of minimum 3500+ Applications for Application Control	
7.	**SD WAN**	
7.1.	Should have inbuild SD WAN technology with application path selection and routing, which is used to ensure quality and minimize latency for mission-critical applications	
7.2.	The Solution should support performance-based SLAs to automatically select the best WAN link based on jitter, latency, or packet-loss	
7.3.	Should support multiple WAN link options including VDSL, DSL, cable, LTE/cellular, and MPLS	
7.4.	Should provide real-time insights into latency, jitter and packet loss for all WAN links	
7.5.	Should maintain application sessions when link performance falls below thresholds and should make a transition to a better	

	performing WAN link	
7.6.	Should have a central SDWAN Orchestration platform to create Multiple site-to-site VPN tunnels between network locations using an optimal architecture like hub-and-spoke, full mesh, or some combination.	
7.7.	Cloud Orchestration should have wizards for easy and quick creating of VPN Tunnels	
8.	**Logging & Reporting**	
8.1.	Firewall logs must contain information about the firewall policy rule that triggered the log	
8.2.	Firewall must provide at a minimum basic statistic about the health of the firewall and the amount of traffic traversing the firewall.	
8.3.	Firewall should have support to log (in detail) all connections which are blocked or pass through the firewall.	
8.4.	Firewall should have support to generate performance statistics on real-time basis.	
8.5.	Firewall should have the capability to produce report s which measure usage.	
8.6.	Should Support 1000+ drilled down reports on the appliance	
9.	**OEM Criteria**	
9.1.	Proposed solution should have Common Criteria EAL4+	
9.2.	Proposed solution should have Manufacturer Authorization (MAF)	
9.3.	Proposed solution should have MTCTE certification from TEC	
9.4.	OEM Support (TAC) Presence in India	
9.5.	Proposed solution should have Make In India	
9.6.	Should have ISO 9001:2015 or above certificate	
10.	**Licenses**	
10.1.	Five Year Subscription licenses for Firewall, Advanced Threat Protection (ATP),WAF(Web Application Firewall), Intrusion Prevention System (IPS), Anti-malware, Web and App visibility control, Zero-Day protection and protection, 24x7 support, security, and software updates. The license period will be counted after activation.	
11.	**WAF (Web Application Firewall)**	
11.1.	Reverse proxy	
11.2.	URL hardening engine with deep-linking and directory traversal prevention	

11.3.	Form hardening engine	
11.4.	SQL injection protection	
11.5.	Cross-site scripting protection	
11.6.	Antivirus engines for WAF	
11.7.	HTTPS (TLS/SSL) encryption offloading	
11.8.	Cookie signing with digital signatures	
11.9.	Path-based routing	

1.2. Core Switch

Feature	Minimum Requirements	Compliance (Yes/No)
Port Configuration	24 x 25G/10G/1G SFP28 ports	
Network Modules	4 x 100G/40G network module	
Transceivers	10 x 10G MM (Multi-Mode) transceivers	
Cables	4 x 40G DAC (Direct Attach Copper) cables	
Power Supply	Dual redundant, hot-swappable power supplies	
Stacking	Stacking capability with 400 Gbps stacking bandwidth	
MAC Addresses	Support for a minimum of 32,000 MAC addresses	
IPv4 Routing	Support for 30,000 IPv4 routes (including ARP and learned routes)	
IPv6 Routing	Support for 18,000 IPv6 routing entries	
Multicast Routing	Support for 8,000 multicast routing entries	
Memory (DRAM)	16 GB DRAM	
Flash Storage	16 GB Flash memory	
Jumbo Frames	Support for jumbo frames up to 9198 bytes	
Switching Capacity	Minimum 3,000 Gbps switching capacity with stacking	
Layer 2 Features	Layer 2 switching, VLAN, PVLAN, 802.1X, MACsec-128	
Routing & Access	Routed Access with RIP, OSPF (supporting 1000 routes), PBR (Policy-Based Routing), PIM Stub Multicast (1000 routes)	
Advanced Layer 3 Features	BGP, EIGRP, HSRP, IS-IS, OSPF, Network segmentation (VRF, VXLAN, LISP), MPLS, mVPN, BSR, MSDP, PIM-BIDIR, TrustSec,	

	SGT	
Security	, SXP, CoPP (Control Plane Policing), IP SLA Responder, SSO (Stateful Switch Over)	
Quality of Service (QoS)	Comprehensive QoS features with classification, marking, and queuing	
Management & Monitoring	CDP, FHS (First Hop Security), IP SLA, SSO, advanced network telemetry and analytics	
Warranty	5-year OEM warranty directly provided to the end customer	
Manufacturer Authorization Form (MAF)	Manufacturer Authorization Form (MAF) required for the proposed solution	

1.3. Access Switch (Non-PoE)

Feature	Minimum Requirements	Compliance (Yes/No)
Port Configuration	24 x 1G data ports	
Uplink Ports	4 x 1/10G fixed uplinks	
Power Supply	PWR-C5-125WAC with fixed redundant power supply	
Switching Capacity	128 Gbps	
Forwarding Rate	95.23 Mpps	
Transceivers	2 x 10G MM (Multi-Mode) transceivers	
Layer 2 Features	Layer 2 switching, VLAN, PVLAN, 802.1X, MACsec-128	
Routing & Access	Static Routing, Routed Access with RIP, OSPF (supporting 1000 routes), PBR, PIM Stub Multicast (1000 routes)	
Advanced Layer 3 Features	OSPF, IS-IS, BGP, IP SLA	
Security	CoPP (Control Plane Policing), SXP	
Quality of Service (QoS)	Comprehensive QoS features with classification, marking, and queuing	

Management & Monitoring	IP SLA, SSO, advanced network telemetry, model-driven telemetry, sampled NetFlow, SPAN, RSPAN	
Automation	NETCONF, RESTCONF, YANG, PnP Agent, PnP	
Warranty	5-year OEM warranty directly provided to the end customer	
Manufacturer Authorization Form (MAF)	Manufacturer Authorization Form (MAF) required for the proposed solution	

1.4. Access Switch (PoE)

Feature	Minimum Requirements	Compliance (Yes/No)
Port Configuration	24 x 1G Full PoE data ports	
Uplink Ports	4 x 1/10G fixed uplinks	
Power Supply	PWR-C5-125WAC with fixed redundant power supply with 370W Available PoE power	
Switching Capacity	128 Gbps	
Forwarding Rate	95.23 Mpps	
Transceivers	2 x 10G MM (Multi-Mode) transceivers	
Layer 2 Features	Layer 2 switching, VLAN, PVLAN, 802.1X, MACsec-128	
Routing & Access	Static Routing, Routed Access with RIP, OSPF (supporting 1000 routes), PBR, PIM Stub Multicast (1000 routes)	
Advanced Layer 3 Features	OSPF, IS-IS, BGP, IP SLA	
Security	CoPP (Control Plane Policing), SXP	
Quality of Service (QoS)	Comprehensive QoS features with classification, marking, and queuing	
Management & Monitoring	IP SLA, SSO, advanced network telemetry, model-driven telemetry, sampled NetFlow, SPAN, RSPAN	
Automation	NETCONF, RESTCONF, YANG, PnP Agent, PnP	
Warranty	5-year OEM warranty directly provided to the end customer	

Manufacturer Authorization Form (MAF)	Manufacturer Authorization Form (MAF) required for the proposed solution	

r) Server for Virtualization

S. N	Component/ Category, Features	Minimum Specification/ Requirement	Supplier Response
1.	Processor	Two Intel Xeon-GOLD 6258R (2.7GHz/28-core/205W) Processor Kit (per node) or better /equivalent.	
2.	Memory	Every offered Node shall have minimum 256GB of memory supporting up to 1024 GB for future expansion	
3.	Network Ports	Minimum Two 10/25GbE SFP+ network ports per Server. And Dual Port 32Gb FC	
4.	DATA	1 TB SAS SSD	
		Usable space after Raid 1	
5.	Compression and data efficiency	Solution must provide inline de-duplication and compression across flash. All required resources must be noted and included to optimally utilize storage resource.	
6.	Hypervisor solution	Server should support such as VMware, KVM, Windows	
7.	Management, Monitoring and Analytics	The solution should provide a single unified management console for the management of the entire environment: software, hardware and associated components. Remote management features and critical component failure alerts.	
		The Hardware Appliance/Software should have an advanced license for remote hardware management.	
		Complete platform shall be managed directly from offered hypervisor management layer and shall not require multiple management tools for day-to-day operations.	

		The offered platform shall have cloud enabled monitoring, AI support and analytics engine for proactive management and risk mitigation. All required licenses for same shall be included in the offer.	
8.	Appliance must have	Two hot plug power supply 220v, 50Hz; (Dual, Hot-plug, Redundant Power Supply (1+1) (Flex Slot Platinum Hot swappable-plug low Halogen redundant Power Supply per node /appliance).	
		Appliance must have redundant high-performance fans.	
		Appliance must have redundant (or) shared I/O.	
9.	Licenses and related software	Supplier is expected to provide software/license for hypervisor, Backup software solution, centralized management tool, and others for the nodes proposed Virtualization Server platform	
10.	Support	Single support channel for the entire solution stack of software, hardware, and hypervisor.	
11.	Expected deliverables	Have a management Software Suite supporting all the peripherals and software solutions.	
		Provide an uptime of at least 99.99%.	
		Real time monitoring by having information on all hyper converged peripherals and software to be able to act timely.	
		Enable to have an impact assessment analysis.	
12.	Ownership/Entitlement of the proposed solutions	All supplied licenses should be in the name of the HPRIDCL and obtained directly from the original source.	
		The support services must be in the HPRIDCL's name (licenses owner) so that technical team can use it directly with the providing solution vendor to resolution of problems.	

13.	Updates	Patching updates: firmware and software releases / updates should not affect business operation.	
14.	Replacement Parts	Offered solution shall include replacement parts for the disk/NVMe drives, power supply and the network card.	
15.	Warranty	5 years warranty for hardware and software related to the solution and 24x7 support. Directly to the END customer	
16.	MAF	The Manufacturer Authorization Letter should be provided in the name of the customer, specifying the offered product and warranty details.	

s) Data Center Leaf Switches

No	Features	Minimum Specification/ Requirement	Supplier Response
1	General Features	High-availability, provisioning, and advanced maintenance capabilities	
2	Ports	24 x SFP/SFP+/SFP28 and 4 x 40/100-Gbps QSFP28 Ports	
3	Optical transceivers per switch	10 x SFP+	
4	Copper Transceivers per switch	2 x GLC-TE	
5	CPU	4 cores	
6	System memory	8 GB	
7	Flash	16GB	
8	System buffer	16 MB	
9	Management port	1 port: 1 RJ-45	
1	MAC addresses	32K	
1	VLAN	4000	
1	Multiple Spanning Tree (MST) instances	64	
1	Hot-Standby Router Protocol (HSRP) groups	490	
1	Active SPAN	4	

	sessions		
1	ECMP paths	64	
1	Virtual Routing and Forwarding (VRF) instances	Shipping: 1k Maximum: 16K	
1	Maximum number of IP Route Entries	19,500	
1	QoS scale entries	4000	
1	Maximum number of multicast routes	8k	
2	Maximum number of Access Control List (ACL) entries	8000	
2	Power supply	Redundant Power supply	
2	Required 25G Connection per switch	SFP28 Cable 5 Meter (Quantity=10)	
2	Warranty	Warranty and Support 5 years with NBD Support from the OEM directly to the end customer.	
2	Authorization	Manufacture Authorization Letter from the OEM	

t) Storage

Features	Minimum Requirements	Compliance (Yes/No)
Storage	Dual Controller SAN Storage with 1 PB usable space	
Hard Disk	20TB HDD SAS ISE 12Gbps 7.2K 512e 3.5in Hot-Plug, AG Drive	
Host Interface	FC, iSCSI (optical or BaseT), SAS	
Processor	Intel Xeon	
Internal Storage	96 X 3.5” drive bays	
Host Interface	FC, iSCSI (optical or BaseT), SAS	
Max 32Gb FC ports	8 per array- support auto-negotiate to 16Gb	

Max 10Gb iSCSI ports	8 SFP+ ports per array, supporting negotiating to 1Gb	
Max 12Gb SAS ports	8 12Gb SAS ports	
Management port	2 per array (1Gb BASE-T)	
Warranty	All the switches should be offered with min 5 years NBD replacement warranty support from OEM.	
Authorization	Manufacture Authorization Letter from the OEM	

u) Smart rack Solution

Sl No	Specifications	Compliance (Yes/No)
1.	3 No. of IT Racks (600 mm Width x 1000mm Depth x 42U Height)	
2.	U space available 120 (approx) for IT Load (with 03Racks)	
3.	Redundant Cooling Unit with Emergency Door Opening with 2 x 45KW Cooling Capacity	
4.	UPS Capacity: 2X 40kVA	
5.	UPS Technology: IGBT based, Dual Conversion	
6.	Battery- Joint Backup Time: 60 Mnts in full load	
7.	Automatic Novec1230 based Fire Suppression (Common for 2 racks)	
8.	Camera- 1 Nos	
9.	Rack PDU – 2 nos per Rack- Vertical Socket Strip, with 18 nos of IEC C13 Sockets and 6 nos, of IEC C19 Socket, with 2.5 Mtr Power Chord, with 32 A.	
10.	Detailed Monitoring & Diagnostics thru RDU-A and HMI 9' display	
11.	Temp Monitoring thru CRV	
12.	Access Control- Biometric Based	
13.	Cooling Type: In Row Precision with inbuilt Heater & Humidifier	
14.	Cooling Technology: Variable using Digital Scroll	
15.	**Remote Monitoring**	
16.	Temp Monitoring thru CRV	
17.	Humidity Monitoring thru CRV	

18.	Door Switch Sensor	
19.	Water Leak Sensor	
20.	Beacon Alarm, Event Alerts	
21.	Blanking Panel (60%)	
22.	RS485 Port	
23.	Email Notification	
24.	LED Lighting	
25.	Kit, Electrical, DB Panel, with switchgears for Smart Row (Input Panels & UPS power distribution for racks)	
26.	Kit, Power Cable, UPS DB Path, for Smart Row, for 40 kVA UPS	
27.	Safety Rack / Utility Cabinet	
28.	IP based Biometric Access Control -Solus Make (Common for all doors)	
29.	2 number GU1.5, Monitored, 32Amps, 36 C13, 6 C19, APAC per rack	
30.	WARRANTY – 5 YEAR STANDARD	
31.	Independent Alert system- RDU G2 with 1 Smoke sensor, 1 Temperature /Humidity Sensor, 1 Water leak Sensor	

v) Video Wall for Command Center

Feature	Minimum Requirements	Compliance (Yes/No)
Display Technology	DLP-based technology with Laser light source or Active LED-based display	
Pixel Pitch	1.5mm or less	
Display Resolution	Full HD (1920x1080) per cube	
Display Configuration	Minimum 3x3 cube matrix or equivalent configuration for Active LED displays	
Brightness	Minimum 800 nits, adjustable for lower or higher brightness requirements	
Contrast Ratio	Minimum 10000:1 dynamic contrast ratio	
Color Calibration	Automatic and continuous color calibration with uniform brightness across all cubes	
Viewing Capability	Ability to display multiple screens simultaneously with flexible screen layouts	
Durability	Minimum operational life of 7 years in 24x7 operation	

Ingress Protection	Conforms to IEC 60529 standard for ingress protection	
Depth of Cube	Minimum possible depth as per OEM design to optimize space utilization	
Controller and Management Software	Controller and management software should be from the same OEM and capable of driving the required number of cubes	
Multi-source Viewing	Capability to display multiple sources in one window with customizable time intervals and sequence	
Health Diagnostics	Self-health diagnostics with alert and pop-up notification for errors	
GIS and Live Video Integration	Ability to display GIS maps, live video streaming from cameras, traffic data, and emergency call status	
Ergonomic Design	Conforms to ISO 11064 for ergonomic design of the command center	
Warranty	Minimum 5 years OEM warranty with next business day replacement support	

w) NMS

S/N	Specification / Value	Compliance (Yes/No)
	Brand & Model Number / Ordering Code	
1.	Centralized Network Management Architecture - Client – Server with multi-site & multi-networks management Support High Availability design OS Support – Windows & Linux Platform	
2.	Network and device discovery Multi-target specification (IP address, IP address range, IP subnet) Automatic Network Devices Discovery using SNMP Automatic Network Devices Discovery using WMI Automatic Network Devices Discovery using ICMP	
3.	Topology Monitoring Automated discovery of network topology (devices and interconnections) Automatic Topology Generation using LLDP / FDB Topology view for broad network visibility Device, Link, Source & Destination Ports, Traffic, Bandwidth	

4.	Monitoring Dashboard Device Summary, Status, Alarms, Top-N details CPU, Memory & Port Utilization SNMP traps & Syslog Monitoring Virtual Rack Monitoring Alerts & Notification – Dashboard & e-mail	
5.	sFlow collection, analysis & Monitoring support	
6.	Inventory management	
7.	Software image management	
8.	Configuration templates	
9.	Configuration file management	
10.	Multi-Vendor Device Monitoring (Vendor, Category & Device Type, Basic device template) MIB Browser & MIB Compiler Custom Device Template / Profile Creation REST API	
11.	Reporting Inventory – Category & Devices, Trap, Syslog, Top-N Devices Health – CPU, Memory, Response	
12.	Built in Tools - PING, Traceroute, CLI Terminal Interface / Emulator	
13.	Security - HTTPS, SNMPv3, User Authentication and Access Rights, IEC or equivalent Indian Cyber Security Certification	
14.	Should be commercial Enterprise NMS. Open-Source NMS will not be considered. Brand should have direct presence & Tech Support (TAC) in India	
15.	Device Licensing SNMP Node / Device based Licensing with Min 500 Devices license activated from day one Necessary Software / Update Support should be provided upto 5 years	
16.	Technical Compliance sheet, Datasheet & Cross Reference MAF from NMS OEM	
17.	Server Hardware Suitable Rack Mount Server Hardware to be quoted / included in the NMS cost for offered NMS	

x) OEM Eligibility Criteria

S. No.	Criteria	Compliance (Yes/No)
1	Proposed Traffic Enforcement Solution should have Certification of Security Assessment from any CERT-IN empanelled agencies. Same should be submitted along with the bid.	
2	Proposed make of SVD system should have been supplied/ deployed in min. 3 Smart City/ ITMS projects in India. PO copies for same should be submitted along with the bid.	
3	Radar Sensor, ANPR system, LPU and IR should be from same OEM for better matching of vehicle speed and number plate data for accurate results and to avoid wrong challans. The OEMs of all these sub-system shall undertake for efficient performance of complete system for e-challaning as per RFB SLA.	
4	A. Proposed ITMS OEM should have supplied minimum 1500 ITMS related licenses including ANPR, SVD (cumulative) and 1500 Traffic Video Analytics (No-helmet, Triple riding) cumulative licenses and 500 citizen centric Video Analytics within last 7 years smart cities / ITMS / safe city projects in India where end user is Government. Copies of Purchase Order(s) / Contract Agreement along with completion certificate should be submitted with the bid documents. B. OEM of ITMS system should have supplied minimum 20 nos. of 4D radar based Speed enforcement system (ANPR+LPU+Radar) in India within last 5 years.	
5	Proposed Radar based Speed violation detection system (ANPR+LPU+Radar) should have an accuracy of more than 200 Kmph +/- 1 %, certified from an agency notified by Government of India under Rule 126 of Central Motor Vehicle Rules,1989 and further amended as per GSR 136 (E) & GSR 575 (E).	
6	The OEM should have direct registered office in India for minimum 5 years. Registered offices by way of Joint ventures, Franchise, distribution partners will not be considered. Also, Merger or takeover of Joint ventures /new companies less than 3 years will not be considered.	
7	The OEM of the IP CCTV Camera should have annual Turnover more than 100 cr. in each of last three Years in India or Globally. [Self-Declaration required by OEM with supporting documents]	
8	Proposed make of Cameras should have been supplied/ deployed in min. 2 Smart City/ ITMS projects in India. PO copies for same should be submitted along with the bid.	
9	The OEM of the IP CCTV Camera must be a member &/or listed in the ONVIF website. The quoted products must be in Conformant Product List and must be listed on ONVIF website. The CCTV OEM should not have been Banned / Backlisted / Suspended from ONVIF Forum within the last five years from the date of publishing the bid.	
10	The OEM should not be blacklisted/debarred by any Ministry of Government	

	of India or by Government of any other State in India or any of the Government PSUs or Globally within the last five years from the date of publishing the bid.	
11	The CCTV OEM should not be a Chinese origin company or company having its 50 percent or more shareholding stake by Chinese/Hongkong government or its entity.	
12	The MAC address OUI (Organizationally Unique Identifier) of the like IP cameras, LPU, Network Switches, Radar servers and any other hardware required to make the system complete must be registered in the name of quoted OEM of the product. To ensure that the IP devices manufactured by the proposed OEM is not vulnerable to outside threats, the MAC ID, Verify that the firmware apps protect data-intransit using transport layer security of all such IP devices should be registered on the name of quoted OEM only. If it is not on the name of the OEM, it simply indicates white-labeling of the product and MAC belonging to any unknown agency, increasing risk of cyber-attack.	
13	All the quoted Cameras should be from a single/same OEM for better integration & support.	
14	POC Proof of Concept (PoC) will be done to ensure the functionality of the proposed system. (PoC Script will be share after bid submission)	
15	ITMS platform applications , LPU and 4d Radar should be native to each other for accurate results and unified auto e-challaning for all traffic enforcement use cases meeting RFB SLA.	

C. OPERATION AND MANAGEMENT OF IRSES FOR A 5-YEAR DURATION

The second phase of the Integrated Road Safety Enforcement System (IRSES) is crucial, focusing on the extensive operation and management of the system over a five-year period. This phase ensures the seamless functionality of all components, from control room operations to field equipment maintenance. Post-implementation, the IRSES project enters a critical service phase, lasting for a specified period, typically five years. During this phase, the Supplier is responsible for ensuring that all components of the IRSES operate efficiently, reliably, and effectively. This phase involves comprehensive operational management, regular maintenance, and continuous improvement of the system. The HPRIDCL proposes to avail Operation and Management Services for 5 years to the RSECC and IRSES components implemented with respect to various areas of infrastructure management as detailed below. Maintenance and operations is the combination of processes and activities connected to the upkeep of the Control room, Field cameras, and Facility Management Services for five years which includes all hardware and software operations, management and provide Facility management services. Scope includes but is not limited to the below.

2.1 Key Components of Operational and Management Services

2.1.1 Vendor responsibilities

1. **Violation and Vehicle Verification:**
   - Objective: Efficiently manage the verification process for violation challans.
   - Activities: Conduct initial verification of challans and prepare them for final approval and signature by authorized officers**.**
2. **Challan Printing and Dispatch:**
   - Objective: Handle the printing and distribution of traffic violation challans.
   - Activities: Manage the entire process from printing to dispatching challans to violators.
3. **IT Hardware Operation and Management:**
   - Objective: Ensure smooth functioning of all IT hardware.
   - Activities: Oversee the operation and management of IT hardware within the control room and related facilities.
4. **Field Equipment Operations and Management:**
   - Objective: Maintain and manage all field equipment.
   - Activities: Regularly check and service field cameras and sensors to ensure their uninterrupted operation.
5. **Payment Collection Center Operations and Management:**
   - Objective: Efficiently run payment collection centers.
   - Activities: Manage staffing, handle financial transactions, and oversee the collection process.
6. **Collection Review & Follow-up Actions:**
   - Objective: Monitor and review the challan generation and collection process.
   - Activities: Track collection status and initiate follow-up actions as needed**.**
7. **Violation Analysis and Road Safety Planning:**
   - Objective: Utilize violation data to enhance road safety measures.
   - Activities: Analyze traffic violation data to inform and support road safety planning and policy decision-making.

2.2 Goals and Impact

This phase is designed to ensure the efficient and effective operation of the IRSES, contributing significantly to the improvement of road safety in the region. By focusing on both technical and operational integrity and the analysis of data for ongoing improvements, the system aims to provide a sustainable solution for traffic management and enforcement.

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A. IMPLEMENTATION SCHEDULE TABLE

The **Integrated Road Safety Enforcement System (IRSES)** project is a critical initiative aimed at enhancing road safety and traffic enforcement across Himachal Pradesh. The project is structured to unfold over a comprehensive timeline of sixty-six (66) months, with an initial six (6) months dedicated to the installation and commissioning of the IRSES traffic enforcement system, followed by sixty (60) months of ongoing operations, management, and support.

A. Project Phases and Milestones

The Integrated Road Safety Enforcement System (IRSES) project is a cornerstone initiative aimed at enhancing traffic enforcement and road safety through the deployment of advanced AI-based surveillance and traffic management technologies. The Supplier will be required to adhere to a structured and methodical implementation process that aligns with best practices in Intelligent Traffic Management Systems (ITMS) project implementation. This process will ensure that the system is designed, deployed, and managed efficiently, meeting all technical, functional, and operational requirements outlined in the Request for Bid (RFB).

The implementation process is designed to ensure timely delivery, operational excellence, and seamless integration of the IRSES across the designated pilot districts. The Supplier must follow a series of well-defined steps, each of which is crucial for the project's success. These steps include comprehensive project planning, phased deployment, rigorous testing, and a focus on quality assurance and stakeholder training. Each milestone must be achieved within the specified timeline, ensuring that the project remains on schedule and within budget.

Implementation Process and Milestones

The implementation process is structured into several key phases, each with specific deliverables and timelines. The Supplier must ensure that each phase is completed in accordance with the project plan and industry best practices.

B. Sample Implementation Process Table

Phase	Activity	Description	Timeline	Deliverable
1. Project Planning	Project Kick-off & Detailed Planning	Conduct a project kick-off meeting, followed by the submission of a detailed project implementation plan, including site viability reports and approvals.	T0 + 3 Weeks	Detailed Project Implementation Plan
2. Design & System Architecture	System Design & High-Level Architecture	Develop the system architecture, ensuring it meets the specific needs of the HP Police, and aligns with industrial standards and RFB requirements.	T0 + 6 Weeks	System Design Documents
3. Procurement & Supply	Procurement of Components	Procure all necessary hardware and software, including surveillance cameras, ANPR systems, radars, and networking equipment. Acceptance of hardware will starts from 12th weeks and supply should complete as per the project schedule	T0 + 12 Weeks onwards	Supply and Delivery Reports
4. Pilot Demonstration	Pilot Installation & Testing	Pilot Installation the IRSES components, followed by a comprehensive demonstration and end-user acceptance.	T0 + 15 Weeks	Pilot Demonstration Report
5. Full System Implementation	System Installation in All Pilot Districts	Complete the installation of the IRSES across all designated districts, ensuring optimal placement and integration of all components.	T0 + 5 Months	Installation Completion Report
6. Integration & Networking	System Integration & Network Configuration	Integrate all system components, establish robust network connectivity, and ensure compatibility with existing traffic enforcement infrastructure.	T0 + 6 Months	System Integration Report
7. System Testing	Comprehensive Testing & Validation	Conduct rigorous system testing, including stress tests and scenario simulations, to validate system performance and functionality.	T0 + 6 Months	System Testing & Validation Report

Phase	Activity	Description	Timeline	Deliverable
8. Training & Handover	Training of HP Police Personnel & System Handover	Provide extensive training to HP Police personnel on the operation and management of the IRSES, followed by the official handover of the system.	T0 + 6.5 Months	Training Reports & Handover Document
9. Operations & Maintenance	Ongoing System Maintenance & Support	Provide ongoing support and maintenance, including quarterly and half-yearly reports, and ensure the system's optimal performance over five years.	Ongoing (5 Years)	Quarterly & Half-Yearly Reports
10. Quality Assurance	Continuous Quality Assurance & Compliance Audits	Conduct regular quality assurance checks and compliance audits to ensure adherence to the RFB requirements and industry standards.	Throughout Project	Quality Assurance & Compliance Reports

T0 = Date of Commencement

C. Implementation Guidelines: Best Practices

1. **Project Planning and Stakeholder Engagement:**
    - Engage all key stakeholders early in the project to align objectives and expectations.
    - Develop a detailed project implementation plan that includes timelines, risk management strategies, and resource allocation.
    - Ensure continuous communication and updates to stakeholders throughout the project lifecycle.
2. **Phased Deployment and Piloting:**
    - Begin with a pilot phase to demonstrate the system's capabilities and gather feedback for improvement.
    - Use the pilot as an opportunity to refine system components and ensure they meet operational needs.
3. **Comprehensive Testing and Validation:**
    - Implement a rigorous testing phase that includes stress tests, performance evaluations, and scenario-based testing.

- Validate system performance under real-world conditions to ensure reliability and accuracy.

4. **Training and Knowledge Transfer:**
    - Provide thorough training for HP Police personnel, focusing on both system operation and troubleshooting.
    - Ensure that training is documented and includes both theoretical and practical components.
5. **Ongoing Support and Maintenance:**
    - Establish a robust support structure to provide continuous maintenance and address any issues promptly.
    - Regularly update the system with the latest software patches and enhancements to maintain optimal performance.
6. **Quality Assurance and Compliance:**
    - Conduct regular audits and quality checks to ensure the system adheres to all technical specifications and industry standards.
    - Implement corrective actions as needed to address any deviations from the project plan or standards.

D. Deliverables and Compliance

Throughout the project, a series of deliverables are scheduled to ensure that each phase of implementation is completed to the highest standards. The project will begin with the submission of a detailed **Project Implementation Plan** within three weeks of the contract award, which will include a comprehensive schedule, risk management strategies, and quality assurance protocols. Key deliverables also include reports on hardware delivery, asset inventory, schematic diagrams, and ownership documents for the implemented hardware and software.

The project concludes with a **Final Test Report**, to be submitted six months from the start, which will include documentation proving the hardware and software's compliance with the five-year OEM warranty and support requirements.

The following key Task are covered under the scope Deliverable as part of Technical RFB:

No.	Deliverable	Timeline from the date of commencement)	Payment (%)

No.	Deliverable	Timeline from the date of commencement)	Payment (%)
1.	The Supplier should submit a Project Implementation plan and schedule with site viability report and get approval from HP police with in the two weeks of project award. The Report should include • Project management and time schedule for Delivery. • Project Controls. • Quality management. • High-level Design Document • Project Risk Management. • Procurement. • Transportation and Delivery of Hardware. • Project milestones • Testing and documentation • Low Level Design document • OEM Warranty details • Customer Ownership documents • Commissioning. Project sign-off.	3 weeks	4%

No.	Deliverable	Timeline from the date of commencement)	Payment (%)
2.	Detailed inventory of delivered hardware and assets (3 separate Invoices with minimum value of 7% of Contract Price can be claimed based on supply and inventory acceptance. The maximum claim percentage under this deliverable is 30% of the Contract Price as mentioned in the payment percentage).	Within 5 months period	30%
3.	Report of Pilot Demonstration with end user acceptance	15 weeks	
4.	Detailed project implementation report at the project testing time which explains traffic rules enforcement and how violations are captured throughout the supply, e-challan systems and payment gateways and collection centres	Within 4 months	
5.	Supplier should provide training and Certifications (if any) for Department persons to manage the administration and operations of the IRSES software modules.	Within 5 months	
6.	Should provide Requirement specification and implemented product details with supporting screenshots (document) which know as Low-level design	5 months	
7.	Schematic Diagram (hardcopy and Soft copy)	5 months	
8.	Low level Design document (LLD) with detailed Implementation and operation procedure report	5 Months	
9.	Ownership details of implemented hardware and software with 5-year warranty, OEM SLA and Return Merchandise Authorization process documents	5 months	
10.	Final Test Report duly signed accepted by the HP police and technical consultant. Document proof of the five-year Hardware and software OEM warranty Support of all components quoted as per the Technical RFB.	6 months	40 %
11.	Quarterly maintenance report (Every three months) for five years		
12.	Half year Periodical report including the approval of quarterly maintenance report-	First half of 1st year after	2%

No.	Deliverable	Timeline from the date of commencement)	Payment (%)
		commissioning	
13.	Half year Periodical report including the approval of quarterly maintenance report	Second half of 1st year after commissioning	2%
14.	Half year Periodical report including the approval of quarterly maintenance report-	First half of 2nd year after commissioning	2%
15.	Half year Periodical report including the approval of quarterly maintenance report-	Second half of 2nd year after commissioning	2%
16.	Half year Periodical report including the approval of quarterly maintenance report	First half of 3rd year after commissioning	2%
17.	Half year Periodical report including the approval of quarterly maintenance report-	Second half of 3rd year after commissioning	2%
18.	Half year Periodical report including the approval of quarterly maintenance report-	First half of 4th year after commissioning	2%
19.	Half year Periodical report including the approval of quarterly maintenance report- (including training report)	Second half of 4th year after commissioning	4%
20.	Half year Periodical report including the approval of quarterly maintenance report- (including Training cum on job training report)	First half of 5th year after commissioning	4%
21.	Half year Periodical report including the approval of quarterly maintenance report- (including on job training report)	Second half of 5th year after commissioning	4 %

B. SITE TABLE(S)

The following site locations have been approved by the Himachal Pradesh Police and have undergone preliminary feasibility studies for deploying Speed Violation Detection Systems (SVDS), AI-based surveillance, and general surveillance. These locations have been identified as critical points for enhancing road safety and security within the state. The sites have been selected based on recommendations by the Himachal Pradesh Police. Bidders are encouraged to physically verify the sites if required for their solution design. The Supplier must visit the sites after the award. If any technical viability issues arise, they should consult with HP Police and HPRIDCL, providing proper justifications. Site changes may be made, subject to approval from the HP Police and HPRIDCL. If the HP Police recommends any location changes within Shimla, Kangra (including Nurpur), or Mandi districts, these recommendations will be considered, provided the technical viability of the locations is confirmed. However, the quantity and functionality of the systems will remain unchanged.

Approved Site Locations:

1. Shimla

IRSES Camera site description						
Sr.	**Location**	**Latitude**	**Longitude**	**Direction**	**Road**	**Police station**
1	Dhalli Sanjauli Bypass	31.1085231	77.2065648	SW, NE	Dhalli Sanjauli Bypass	Dhalli
2	Charabra (S)	31.1152989	77.246653	East, West	NH-05	Dhalli
3	Vikasnagar	31.0830498	77.1789441	North, South	NH-05	East
4	Malyana	31.08482	77.191968	NW, SE	Shimla Bypass	Dhalli
5	Shanan	31.095974	77.195446	East, West	Shimla Bypass	Dhalli
6	Hussay valley (Sanjauli)	31.103833	77.193419	West, SE	SH	Dhalli
7	Shoghi (S)	31.0516592	77.135006	NE, SW	NH-05	West
8	Banuti (S)	31.1225883	77.1020783	NW, SE	NH-205	West
9	Ghanahatti	31.1389672	77.0841453	NW, SE	NH-205	West
10	Naldehra	31.1837342	77.1880165	East, West	SH	Dhalli
12	Basantpur	31.211026	77.171414	North, SE	SH	Sunni
13	Nirath (S)	31.3733354	77.5456017	North, SE	SH	Rampur
14	Jhakri PS Jhakri	31.491618	77.70172	SE, NW	NH-05	Rampur

15	Bithal	31.3518941	77.4937398	East, West	NH-05	Kumarsain
16	Sainj	31.3401991	77.4446343	West, East	NH-05	Kumarsain
17	Sainj (S)	31.3425324	77.4521207	SW, NE	NH-05	Kumarsain
18	Narkanda	31.254879	77.457046	SW, NE	NH-05	Kumarsain
19	Kandayali	31.2259717	77.4333917	SE, NW	NH-05	Kumarsain
20	Patsari (S)	31.1456966	77.7435544	North, South	SH	Rohru
21	Patsari	31.1562481	77.7355115	North, South	SH	Rohru
22	Mehndlli (S)	31.175645	77.7264917	North, South	SH	Rohru
23	Mehndlli	31.1859933	77.7292767	NE, SW	SH	Rohru
24	Seema College	31.2143767	77.7958883	East, West	SH	Rohru
25	Hatkoti	31.1328794	77.7433617	South, NE	SH	Jubbal
26	Dochi	31.1198232	77.7128926	East, West	SH	Jubbal
27	Paraunthi	31.1029476	77.649678	North, South	SH	Jubbal
28	Saintari	31.109942	77.588973	South, North	SH	Kotkhai
29	Kuri/Kalot	31.11341	77.55409	East, SE	SH	Kotkhai
30	Chhowl	31.117968	77.527087	East, West	SH	Kotkhai
31	Kokunala (S)	31.11727	77.5056471	East, West	SH	Kotkhai
32	Gumma	31.119695	77.487175	NW, SE	SH	Kotkhai
33	Chopal	31.950258	77.590583	NW, SE	SH	Chopal
34	ITI Nerwa	30.9117689	77.6460041	NW, SE	SH	Nerwa
35	Jhamradi	30.8573539	77.7381708	North, South	SH	Nerwa
36	Sainj	31.078595	77.388212	North, South	SH	Theog
37	Bagain	31.1039717	77.438615	West, East	SH	Theog
38	Chaila Kenchi (S)	31.096564	77.414816	SW, NE	SH	Theog
39	Matiana	31.210042	77.404272	NE, SW	NH-05	Theog
40	Matiana (S)	31.210042	77.404272	NE, SW	NH-05	Theog

41	Sandhu	31.1555393	77.3798959	South, North	NH-05	Theog
42	Premghat	31.119665	77.3586909	SE, NW	NH-05	Theog
43	Nangal Devi	31.121593	77.336815	North, South	NH-05	Theog
44	Galu	31.0926281	77.285129	North, South	NH-05	Theog
45	Anandpur Shoghi Mehli	31.048338	77.148114	West, SE	SH-Shoghi Mehli Bypass	West
46	Taradevi	31.079274	77.1391229	NW, SE	NH-05	West
47	Taradevi (S)	31.079274	77.1391229	NW, SE	NH-05	West
48	Auckland Bridge	31.1079207	77.1803042	East, NW	SH	Sadar Shimla
49	Dhanda	31.1066533	77.1156033	South, NW	NH-205	West
50	Banuti	31.1211757	77.1024588	South, North	NH-205	West
51	Near Hanuman Temple (S)	31.23852	77.1219	North, South	SH	Sunni
52	Nogli-Tacklech	31.399583	77.634698	North, South	NH-05	Rampur
53	Nogli (S)	31.4037617	77.632675	NW, SE	NH-05	Rampur
54	Khopri	31.429897	77.623957	NE, SW	NH-05	Rampur
55	Rampur Brow Bridge	31.442505	77.628777	North, South	NH-05	Rampur
56	Part Bunglow	31.454576	77.641934	NW, SE	NH-05	Rampur
57	Rohru	31.203095	77.750522	NE, SW	SH	Rohru
58	Janog Near Theog (S)	31.115858	77.36193	West, East	SH	Theog

2. Mandi

IRSES Camera site description						
Sr.	**Location**	**Latitude**	**Longitude**	**Direction**	**Road**	**Police station**
1.	Sanarli	31.403018	77.204614	N, S	KarsogRampur Rd	Karsog
2.	Aut Bazaar	31.742892	76.208165	N, S	NH-03	Aut
3.	Panarsa chowk	31.7837983	77.1947833	NE, SW	NH-03	Aut
4.	Takoli sabzi mandi	31.795970	77.189105	N, S	NH-03	Aut

5.	Jhiri chowk	31.837402	77.169573	NE, NW, S	NH-03	Aut
6.	Jhiri (Speed)	31.829253	77.172459	NW, SE	NH-03	Aut
7.	Banala	31.7631020	77.2039040	NW, SE	NH-03	Aut
8.	Hanogi	31.6941438	77.1200900	E, W	NH-03	Aut
9.	Seogi (Speed)	31.683490	77.045096	N, S	NH-03	SadarMandi
10.	9Mile	31.700975	77.034291	NW, SE	NH-03	SadarMandi
11.	4Mile	31.704120	77.977841	SW, NE	NH-03	SadarMandi
12.	Bye Pass Mandi (New /Speed	31.697462	76.937786	S, N	NH-03	SadarMandi
13.	Lunapani Bypass	31.605853	76.927222	NE, SW	NH-154	Balh
14.	Syan chowk	31.590221	76.933668	E, S, NW	MDR-24	Balh
15.	Ganeshi chowk	31.566444	76.008204	E, W	MDR-24	Gohar
16.	Halel Speed	31.583194	76.916681	N, S	NH-154	Dhanotu
17.	Lalit chowk	31.517482	76.884548	W, N	NH-154	Sundernagar
18.	Chamukha (Speed)	31.495458	76.874126	N, S	NH-154	Sundernagar
19.	New 4 Lane road	31.542007	76.88993	NE, SW	New 4 lane	Sundernagar
20.	New 4 Lane road (Speed)	31.542007	76.889993	NE, SW	New 4 lane	Sundernagar
21.	Narla	31.868585	76.927838	SE, NW	NH-154	Padhar
22.	Kothi (Speed)	31.872468	76.922368	NW, SE	NH-154	Padhar
23.	Pathankot chowk Joginder	31.991218	76.788977	E, S, W	NH-154	Joginder Nagar
24.	Bassi link Road	31.950226	76.794720	S, N	SH-19	Joginder Nagar
25.	Khuddar (Speed)	31.943399	76.795837	S, N	SH-19	Joginder Nagar
26.	Bir Road Jogindernagar	32.023583	76.710197	NW, E	NH-154	Joginder Nagar
27.	Ghatta (Speed)	32.038728	76.667508	SE, NW	NH-154	Joginder Nagar
28.	Lad Bharol	31.933518	76.705296	N, SE	MDR-43	Joginder Nagar
29.	Dharampur Busstand (Surv)	31.803517	76.762007	E, S, W	Link Road	Dharampur
30.	Sarori/ Jamsai	31.714488	76.735106	N, SE	SH-19	Sarkaghat
31.	Tihra Mod Bazaar(S/Ghat)	31.698708	76.735497	NE, SW	SH-19	Sarkaghat

32.	Dabrog	31.690562	76.731263	NE, SW	SH-19	Sarkaghat
33.	Mohin (Speed)	31.648374	76.733589	N, S	SH-19	Sarkaghat
34.	Fatehpur	31.632822	76.734107	S, N	SH-19	Sarkaghat
35.	Kenchi Mod (Surv)	31.603674	76.742307	N, S	SH-19	Hatli
36.	Batain (Speed)	31.575720	76.735189	SE, NW	SH-19	Hatli
37.	Manwana chowk	31.572032	76.741853	NW, SE	SH-19	Hatli
38.	Baldawara (Surv)	31.556913	76.764528	SE, S, W	SH-19	Hatli
39.	Plassi	31.541008	76.757088	SW, NE	SH-19	Hatli
40.	Mandi ITI - Sur	31.706467	76.935325	W, SW, SE	NH-03	SadarMandi
41.	Gandhi chowk - Sur	31.708688	76.931941	SW, N, SE	Mandi Rewalsar RD	SadarMandi
42.	Saigloo	31.750245	76.893562	SE, NW	Mandi-Rewalsar Rd	SadarMandi
43.	Chailchowk/Moviseri (Surv)	31.566905	76.999768	S, E, NW	MDR-24	Gohar
44.	Ganeshi chowk (Speed)	31.566444	76.008204	E, W	MDR-24	Gohar
45.	Naulakha chowk (Sur)	31.561656	76.903737	N, S	NH-154	Dhanotu
46.	Sundernagar (Sur)	31.537415	76.892098	E, W	NH-154	Sundernagar
47.	Kataula (Surv)	31.797344	76.018064	W, E	MDR-23	Padhar
48.	Barot (Surv)	32.038238	76.845775	W, S	Link Road	Padhar
49.	Thanachowk Jogindernagar (Surv)	31.989665	76.791955	SE, SW, N	NH-154	Joginder Nagar
50.	Chauntra (Speed)	32.014853	76.737162	W, E	NH-154	Joginder Nagar

3. Kangra

IRSES Camera site description						
Sr.	**Location**	**Latitude**	**Longitude**	**Direction**	**Road**	**Police station**
1.	Bharoli kuthiara	31.792065	76.338635	North, SE	Shimla Kangra Road	Jawalamukhi
2.	Ramnibaag (S)	31.874535	76.286846	SE, NW	Jawalji Road	Jawalamukhi
3.	Near Mahavir TVS shop	31.885971	76.305176	NW, SE	Shimla Kangra Road	Jawalamukhi

4.	Sapri (S)	31.895288	76.295598	SE, NW	Shimla Kangra Road	Jawalamukhi
5.	Kaloha/Sadwan	31.7779191	76.2195410	South, North	MDR-46	Rakkar
6.	Sikra Da Paroh	31.760067	76.212346	NE, SW	NH-03	Rakkar
7.	Kamlu howk	31.775498	76.299747	NW, SE	NH-03	Rakkar
8.	Chamukha (S)	31.785630	76.295418	South, North	NH-03	Rakkar
9.	Rakkar chowk	31.782660	76.246096	South, NW	NH-03	Rakkar
10.	Pragpur	31.818659	76.214847	NW, SE	MDR-46	Dehra
11.	Nehran Pukhar (S)	31.849194	76.200823	West, East	NH-503	Dehra
12.	Hanuman chowk	31.878597	76.225452	SE, SW,NW,NE	NH-503	Dehra
13.	Khabli dosadka	31.904457	76.221055	NE, South	NH-503	Dehra
14.	Dhawala (Sur)	31.876267	76.247951	East,SE,West	SH-22	Dehra
15.	Bankhandi Dosadka (S)	32.955287	76.196622	SW, NE	NH-503	Haripur
16.	Darkata	32.989197	76.216328	North,South	NH-503	Haripur
17.	Ranitalchowk/ Kartik dhaba	32.008284	76.230898	North,South	NH-503	Haripur
18.	Balugaloa	32.944210	76.258153	NW, SE	NH-303	Haripur
19.	Junga Devi	31.900850	76.536006	SW, NE	Bhawarna-Jaisingh Road	Lambagaon
20.	Police post Thural	31.930940	76.458071	North,South	SH-39	Bhawarna
21.	Bhattu	32.082381	76.488301	East,West	NH-154	Bhawarna
22.	Darang (S)	32.091324	76.444173	North,South	NH-154	Bhawarna
23.	Patti chowk (Sur)	32.073500	76.538396	North,SE,SW	Panchrukhi Rd	Panchrukhi
24.	Panchrukhi chowk	32.055804	76.565606	West,North,SE	SH-17	Panchrukhi
25.	Andreta Panchrukhi	32.042886	76.568411	North,South	SH-17	Panchrukhi
26.	Padiarkhar	32.074054	76.596586	West,East	NH-154	Panchrukhi
27.	Averi aluhal (S)	32.068103	76.611293	NW, SE	NH-154	Baijnath
28.	Paprola chowk	32.053945	76.634327	South,NW	NH-154	Baijnath
29.	Gankethar	32.055695	76.655348	East,West	NH-154	Baijnath
30.	Mahakal chowk (Sur)	32.009841	76.651434	East,South,NW	MDR-43	Baijnath

31.	Mahakal chowk	32.008437	76.651970	South, North	MDR-43	Baijnath
32.	Bir chowk (Surv)	32.044466	76.725833	NE, SW	Link Road	Bir
33.	Bir landing site (Surv)	32.041530	76.709650	North,SE	Link Road	Bir
34.	AgricultureGateNo3(S)	32.100364	76.549202	NE, SW	Mandi Pathankot RD	Palampur
35.	Subhash chowk	32.110653	76.536182	South, North	SH-17	Palampur
36.	Chopatti	32.121471	76.533760	North,South	SH-17	Palampur
37.	Kalu di Hatti	32.087813	76.524978	NE, SW	NH-154	Palampur
38.	Neugal Pvt school/Vrindavan	31.114386	76.516159	SE,NW	SH-17	Palampur
39.	Chimbalhar (S)	31.111368	76.503489	East,West	SH-17	Palampur
40.	Bagora	32.122834	76.485201	East,West	SH-17	Palampur
41.	Chachiyan (S)	32.135110	76.465872	East,West	SH-17	Palampur
42.	Dadh-speed	32.147610	76.423595	SW,NE	SH-17	Palampur
43.	Dadh-Sur	32.146983	76.420638	West,NE,East	SH-17	Palampur
44.	Dadh Jhakli	32.144894	76.417071	SW,NE	SH-17	Palampur
45.	Mallan ambari	32.110987	76.424146	SE,NW	NH-154	Nagrota Rd
46.	Bus stand Nagrota	32.109679	76.382665	S,W,N,E	NH-154	Nagrota Bagwan
47.	Badaidhar-speed	32.097831	76.354467	SW,NE	NH-154	Nagrota Bagwan
48.	53 Mile-speed	32.100420	76.321163	NW,SE	NH-154	Nagrota Bagwan
49.	Rajhiana	32.110287	76.334330	NE, SW	Yol camp Road	Nagrota Bagwan
50.	Patial khad-speed	32.138621	76.361615	NE, SW	Yol camp Road	Nagrota Bagwan
51.	Majhetli - speed	32.119433	76.418213	NW, SE	MDR-48	Nagrota Bagwan
52.	Patiala chowk	32.105856	76.274535	NE, South,SW	NH-503	Kangra
53.	Kachiar Near utsav	32.118137	76.297050	North,South	NH-154	Kangra
54.	Bagli chowk / Matour	32.133141	76.294896	West,NE,East	NH-154	Kangra
55.	Gaggal chowk-sur	32.153630	76.269960	SE,NW,North	NH-154	Gaggal
56.	Gaggal chowk	32.154351	76.269122	NW,SE	NH-154	Gaggal
57.	Gaggal Police Station-S	32.158743	76.264179	NW,SE	NH-154	Gaggal

58.	Chettru chowk	32.161176	76.291401	SE,SW,NW	SH-44	Gaggal
59.	Dhagwar	32.166588	32.309278	SW,NE	Chettru-Shila chowk RD	Gaggal
60.	Batehar -speed	32.185170	76.332018	South, North	D/Shala Rd	Dharamshala
61.	Dari	32.193191	76.341201	South, North	Dharamshala Road	Dharamshala
62.	Upper sakoh	32.189752	76.315967	NE, SW	NH-503	Dharamshala
63.	Cantt Road Dharamshala	32.227102	76.317317	NE, SW	NH-503	Dharamshala
64.	Patola	32.213599	76.357734	SE,NW	Kaniyara Road	Dharamshala
65.	Mohli	32.203008	76.368284	SW, NE	Kaniyara Road	Dharamshala
66.	Sidhpur Kangra	32.190610	76.352472	West, East	NH-154	Dharamshala
67.	Yol cant	32.179691	76.377858	NW, SE	NH-154	Dharamshala
68.	Tang	32.163671	76.400661	SE, NW	NH-154	Dharamshala
69.	Jadrangal (S)	32.157028	76.413212	NW, SE	NH-154	Dharamshala
70.	Forsyth Ganj	32.239571	76.312952	NE, South	NH-503	Mcleodganj
71.	Tihra line (Gold Finches)	32.233628	76.305513	North,East	NH-503	Mcleodganj
72.	Shahpur Ladwara (S)	32.178278	76.226912	East,West	NH-154	Shahpur
73.	Rait	32.187200	76.210163	NW, SE	NH-154	Shahpur
74.	42 Mile (Near Ashok Leyland) Speed	32.193302	76.203528	South, North	NH-154	Shahpur
75.	39 Mile (Going construction)	32.221373	76.174974	NW, SE	NH-154	Shahpur
76.	Harchakian (Shahpur)	32.149257	76.100022	NW, SE	SH-23	Shahpur
77.	Safeda chowk (Speed)	32.141482	76.109368	SE, NW	SH-23	Shahpur
78.	Manai chowk (Shahpur)	32.118663	76.134521	SE, NW	SH-23	Shahpur
79.	Terrace (Dehra PS)	31.937208	75.915416	E, S, N	Chintpurni- Kandrori Damtal Rd	DehraPP

4. Nurpur

IRSES Camera site description						
Sr.	**Location**	**Latitude**	**Longitude**	**Direction**	**Road**	**Police station**
1.	Jonta (Star kulcha) S	32.268474	76.003621	West, East	Mandi Pathankot Rd	Nurpur
2.	Nagabari	32.278463	75.808162	West, East	Mandi Pathankot Rd	Nurpur
3.	Near Lifeline Hospital- speed (Speed)	32.280001	75.784565	West, East	Mandi Pathankot Rd	Nurpur
4.	Damtal/Motli	32.219518	75.662922	South, North	Pathankot-Jalandhar Rd	Nurpur
5.	Tokki Barrier- Speed	32.197499	75.657299	South, North	Pathankot-Jalandhar Rd	Nurpur
6.	Kandrori	32.184075	75.665523	S, N, W	Kandrori- Bhur Rd	Nurpur
7.	Talara- Speed	32.235440	76.899081	North, South	Pong-Dam Fatehpur Rd	Nurpur
8.	Rehan/Hotel chamunda	32.165461	75.908454	South, North	Pong-Dam Fatehpur Rd	Nurpur
9.	Barot- Speed	32.129838	75.926862	North, South	Pong-Dam Fatehpur Rd	Nurpur
10.	Fatehpur (3 direction)	32.099208	75.942780	SE, NW, SW	Pong-Dam Fatehpur Rd	Nurpur

The Supplier is required to conduct a detailed site survey at each of the approved locations. The purpose of this survey is to:

- **Assess the Components**: Evaluate the specific components needed, such as cameras, mounting structures, power supplies, communication links, and any other necessary hardware.
- **Understand the Site Situations**: Analyze environmental conditions, traffic patterns, visibility, and other site-specific factors that may affect the installation and performance of the proposed systems.
- **Propose a Comprehensive Solution**: Based on the site survey, Supplier must propose a solution that meets the customer's needs and requirements, ensuring full functionality and reliability of the deployed systems.

Supplier's Responsibilities

- **Inclusion of All Components**: The Supplier must consider and include all components, accessories, and any additional infrastructure required to fulfill the solution. This includes, but is not limited to, cameras, processing units, networking equipment, mounting hardware, power supplies, and protective enclosures.

- **Compliance with Specifications**: The proposed solution should align with the technical specifications outlined in this RFB and adhere to the standards set forth by the Himachal Pradesh Police and HPRIDCL.
- **Documentation**: Upon completion of the site survey, Supplier is required to provide detailed documentation that includes the findings of the survey, the proposed solution, and a comprehensive Bill of Materials (BoM) with part numbers and quantities for each site

C. TABLE OF HOLIDAYS AND OTHER NON-WORKING DAYS

A. Operation and Staffing Requirements

Command and Control Center Operation:

- The Supplier is responsible for operating the Command and Control Center, which includes preparation of challans (e-tickets) and managing 24/7 enforcement and surveillance operations at designated locations.
- The operation period will be **5 years**, during which the Supplier must ensure continuous and uninterrupted service, adhering to the standards and expectations set forth by the Himachal Pradesh Police.

Staffing and Resource Management:

- **Manpower Requirements**: The Supplier must deploy sufficient and qualified manpower to manage the service effectively. This includes staffing for round-the-clock operations, ensuring that all shifts are adequately covered to maintain full operational capacity at all times.
- **Employee Adherence**: The Supplier must adhere to all relevant labor laws, including those pertaining to working hours, rest periods, and holidays. Employees must be managed in a manner that ensures compliance with these regulations while maintaining the efficiency and effectiveness of the operation.

B. Table of Holidays and Other Non-Working Days

The table below outlines the official holidays and other non-working days as recognized by the Himachal Pradesh Police for the operation period. The Supplier must ensure that staffing levels remain sufficient to cover all critical operations during these days, as the Command and Control Center and surveillance operations must remain fully functional 24/7.

Holiday/Non-Working Day	Date	Day of the Week
Republic Day	January 26, [Year]	Friday
Holi	March [Date], [Year]	[Day]
Himachal Day	April 15, [Year]	Monday
Independence Day	August 15, [Year]	Thursday
Gandhi Jayanti	October 2, [Year]	Wednesday
Dussehra	October [Date], [Year]	[Day]
Diwali	November [Date], [Year]	[Day]
Christmas	December 25, [Year]	Wednesday
State-specific Holidays (if any)	[Date], [Year]	[Day]

Note: This table should be updated annually to reflect the official holiday calendar. The Supplier must ensure that during these days, all critical operations are adequately staffed, and any necessary adjustments to the workforce are made in advance.

Continuity of Operations

- The Supplier must have a robust contingency plan to handle any unexpected situations, such as natural disasters, strikes, or other events that could disrupt operations. This plan should include provisions for backup staff, alternative communication channels, and other measures to ensure the uninterrupted functioning of the Command and Control Center and surveillance operations.

System Inventory Tables

The Bill of Materials (BoM) for the Integrated Road Safety Enforcement System (IRSES) project is a detailed inventory that outlines the essential hardware, software, and services required to ensure the successful deployment, operation, and maintenance of the system over a five-year period. It includes critical components for the control room infrastructure, field installations, and network security, such as ANPR cameras, radar systems, LAN switches, and hyper-converged infrastructure. These elements are vital for real-time traffic monitoring, data processing, and enforcement. Additionally, the BoM anticipates the need for secure power supplies, comprehensive software applications, and skilled manpower to maintain optimal system performance and uptime.

While the BoM is comprehensive, it highlights potential additional needs, such as expanded data storage, advanced analytics tools, and enhanced environmental protection for field equipment, ensuring the system's resilience and scalability. By providing a clear framework for procurement, installation, and long-term support, the BoM serves as a cornerstone for the IRSES project, guaranteeing that all necessary resources are in place to achieve its objectives of improving road safety and traffic management in Himachal Pradesh.

Data Infrastructure Operations and Management

The Supplier should Operate and manage all IT assets including Field and Control room IT and Non-IT assets as part of the Operation and Management phase. The Supplier should be deployed skilled professionals in respective IT domains and Project areas to operate and manage the facility for five years. The Scope of Operations and management includes Monitoring, Troubleshooting and Fixing all IT and Non-IT devices' functional errors by themself or with the Warranty support team and logging all the activities including SLA and SLA breaches behalf of the HPRIDCL. HPRIDCL desires that the selected vendor should support the infrastructure hosted at Control Center, Field camera Junctions and Payment collection centres in a professional manner through trained, certified, efficient and experienced engineers in the relevant areas mentioned in the scope of work in the technical RFB for the Operations and Management phase 2. The desired operational staff details as mentioned below for EOI Supplier's reference. The resource should be provided as per the qualification and experience listed under the below table as a baseline for Selection criteria.

A. Supplier Responsibilities

1. **Operational Management:**
    - **Responsibility:** Ensure seamless operation of all IRSES components, including the control room, field cameras, and payment collection centers.
    - **Tasks:** Monitor system performance, manage IT and Non-IT assets, and address any operational challenges promptly.
2. **Routine Maintenance and Troubleshooting:**
    - **Responsibility:** Perform regular maintenance checks and troubleshoot any issues.
    - **Tasks:** Schedule and conduct preventive maintenance, resolve hardware or software issues, and liaise with OEMs for specialized support.
3. **Technical Staffing:**
    - **Responsibility:** Provide qualified technical staff for various operational roles.
    - **Tasks:** Deploy skilled professionals with relevant expertise, manage staffing levels, and provide ongoing training and support.
4. **Network Management:**
    - **Responsibility:** Ensure robust network connectivity and performance.
    - **Tasks:** Oversee network operations, manage connectivity issues, manage Noc/Soc and ensure network security and redundancy.
5. **Data Backup and Recovery:**
    - **Responsibility:** Implement a reliable data backup and disaster recovery strategy.
    - **Tasks:** Regularly backup critical data, test recovery procedures, and maintain readiness for any data loss scenarios.

6. **Security and Compliance:**
    - **Responsibility:** Uphold high standards of security and compliance.
    - **Tasks:** Monitor for security threats, implement protective measures, and ensure compliance with relevant regulations and standards.
7. **User Support and Communication:**
    - **Responsibility:** Provide effective user support and maintain open communication channels.
    - **Tasks:** Operate a helpdesk, address user queries and issues, and keep stakeholders informed about system status and updates.
8. **Vendor and Warranty Management:**
    - **Responsibility:** Manage relationships with vendors and OEMs for warranties and services.
    - **Tasks:** Coordinate warranty services, manage vendor contracts, and ensure fulfilment of service level agreements (SLAs).
9. **Performance Reporting:**
    - **Responsibility:** Report on system performance and operational metrics.
    - **Tasks:** Compile and submit regular reports, analyze performance data, and provide insights for continuous improvement.
10. **System Upgrades and Enhancements:**
    - **Responsibility:** Plan and implement system upgrades and enhancements.
    - **Tasks:** Assess system needs, coordinate upgrades, and integrate new technologies without disrupting current operations.

- The Supplier shall design the system in such a way that single source liability is ensured for key Traffic Enforcement system components like ANPR,, SVD, ATCC & Traffic/ Vehicular Analytics, 4D Radars & LPU for local processing of traffic violation detection at traffic junctions. MAC address of LPU shall be on the name of proposed traffic enforcement OEM. Requisite documentary proof should be submitted along with the bid.
- MAC address of all IP devices including Cameras, LPU, etc shall be on the name of OEM/ Brand. Requisite documentary proof shall be submitted along with the bid.
- The Traffic Enforcement & Vehicle Detection Camera system should have certification for Cyber Security from CERT-In empaneled agency in India to ensure that the critical information processed and stored at junction level by the proposed application is secure from cyber- attacks / hacking / hijacking. The proposed vehicle detection system should have the capability to transfer the data to ATCS Controller through proper encryption in real time and must have a central web dashboard at ICCC/ Command Center for availability of various traffic information, pattern & statistics.
- ANPR, RLVD, SVD, Traffic Analytics & E-Challan applications should have a single dashboard and same OEM for optimum performance & single source liability.

Throughout the service phase, the Supplier is accountable for maintaining the integrity, functionality, and effectiveness of the IRSES. This responsibility requires a blend of technical expertise, proactive management, and a commitment to continuous improvement, ensuring the IRSES project meets its objectives and serves its purpose efficiently throughout its operational lifespan.

B. SLA Terms for 5-year Warranty

The Service Level Agreement (SLA) is a critical component of the contract between HPRIDCL and the Supplier for the 5-year warranty period of the IRSES project. The SLA outlines the standards and expectations for service delivery, ensuring that the SI adheres to project timelines, quality, and after-sales service.

Key Elements of the SLA

1. **Performance Indicators:**
    - **Details:** The SLA should specify clear performance indicators against which the services provided by the SI will be measured. These indicators will cover various aspects of the project, such as system uptime, response times for maintenance, resolution of issues, and overall system performance.
2. **Timely Delivery of Deliverables:**
    - **Details:** The SLA should mandate the SI to deliver all project deliverables within the agreed timelines. This includes the installation, maintenance, updates, and any other services that are part of the project scope.
3. **Quality Assurance:**
    - **Details:** The SLA should set forth quality standards for the services provided. The SI must meet these standards in all aspects of their work, ensuring that all system components and services are reliable and function as intended.
4. **After Sales Service:**
    - **Details:** The SLA should detail the after-sales service requirements, including warranty services for hardware and software components, ongoing technical support, and regular system updates and upgrades.
5. **System Availability and Uptime:**
    - **Details:** The SLA should specify the minimum system availability and uptime required, ensuring that the IRSES remains operational and functional at all times, barring any scheduled maintenance or unforeseen circumstances.
6. **Response and Resolution Times:**
    - **Details:** The SLA should define the maximum response times for various types of issues and the expected resolution times, ensuring quick and effective handling of any problems that arise.

7. **Regular Reporting and Reviews:**

   - **Details:** The SLA should require the SI to provide regular reports on their service performance and participate in periodic reviews to assess compliance with the SLA terms.

8. **Penalties for Non-Compliance:**

   - **Details:** The SLA should outline the penalties or consequences for failing to meet the agreed-upon service levels. This might include financial penalties, additional service requirements, or other measures.

9. **Continuous Improvement:**

   - **Details:** The SLA should encourage continuous improvement in service delivery, with the SI expected to adapt to changing project needs and incorporate feedback from HPRIDCL.

10. **Escalation Procedures:**

    - **Details:** The SLA should provide clear escalation procedures for any disputes or significant issues that arise, ensuring a swift and effective resolution process.

Warranty, User Support, and Maintenance Requirements:

No.	Requirements	Mandatory (M)/Preferred (P)/Optional (O)	Comments
1.1	The Supplier shall provide warranty service starting immediately after implementation and training. The supplier shall solve all issues associated with equipment, components, installation, and configuration during the warranty period.	M	
1.2	The Supplier must document their support structure, specifying the warranty, extended support, replacement structure, costs, and applicable periods for the full contract term (5 years).	M	
1.3	The Supplier shall detail hardware support, spare parts location, availability, and delivery timelines during the entire contract term (5 years).	M	
1.4	The Supplier shall specify how and when support calls can be registered, detailing call response times per channel (phone, email, alerts, messaging).	M	
1.5	The Supplier shall detail incident and problem severity classifications, with appropriate response and resolution times, and the penalty structure.	M	
1.6	The Supplier will detail administrative user support delivery for IRSES IT Team, specifying in-scope and out-of-scope components for support.	M	
1.7	The Supplier shall resolve all critical issues within 3 hours and non-critical issues within 2 days.	M	

1.8	**Installation, Warranty, and Extended Services:**	M	
1.9	**Installation Services:**	M	
	- Provide setup documentation for architecture and implementation.		
	- Develop operational documentation and procedures for day-to-day maintenance.		
	- Train and assist administrative staff up to Go-Live in all aspects of day-to-day maintenance.		
	- Assist in correcting errors and resolving environment issues.		
	- Technical support for server configuration and adjustment of default parameters.		
Post Go-Live Warranty and Extended Services:			
1	- Training and assisting administrative staff for 60 months post-Go-Live in maintenance, operations, and environment improvement/design.	M	
2	- Provide necessary technical assistance and re-train staff as needed.	M	
3	- L1, L2, and L3 level support for severe and critical incident resolution and root-cause analysis throughout the contract.	M	
4	- Assistance with planned and unplanned maintenance, severe and critical system software updates.	M	

SLA Performance Scoring and Measurement Mechanisms:

The **Service Level Agreement (SLA)** defines the minimum uptime, availability, and performance metrics that the selected bidder/System Integrator (SI) must adhere to during the operation and maintenance period of the **IRSES Project**. It outlines penalties and liquidated damages for non-compliance, ensuring project quality and timely service delivery.

y) Uptime Requirements

- The selected bidder must guarantee a **24x7x365** availability, ensuring an uptime of **99.90%** for the entire solution, including Command Center, VMS, and all related software services.
- Uptime will be calculated **quarterly** based on monthly uptime logs.
- The bidder should ensure a **Recovery Point Objective (RPO) of 15 minutes** and a **Recovery Time Objective (RTO) of 120 minutes** for high availability at the Data Center (DC).
- Uptime is calculated using the formula:

  Uptime (%) =

$$\frac{\text{(Total contracted minutes in a month - Downtime minutes within contracted minutes)}}{\text{Total contracted minutes in a month}} * 100$$

Where "Downtime" is the time the system is unavailable due to failures, excluding planned downtime or outages due to force majeure or client dependencies.

z) Penalties/Liquidated Damages

If the selected bidder fails to meet the required uptime or other performance metrics, penalties or liquidated damages will be applied. These penalties will be calculated based on the following tables:

Uptime Penalties

Sl. No.	Service Level Category	Expected Service Level	Penalty
1	Uptime of Command Center, VMS, Software Services	99.90% and above	No Penalty
2	Uptime between 98.00% and 99.90%		1% of quarterly O&M charges
3	Uptime between 96.00% and 98.00%		2% of quarterly O&M charges
4	Uptime between 90.00% and 96.00%		3% of quarterly O&M charges
5	Uptime below 90.00%		5% of quarterly O&M charges

Note: If the downtime is caused by client dependencies or approved planned downtime, penalties are not applicable.

1 Hardware Replacement Penalties

For delays in replacing failed hardware components:

Sl. No.	Service Level Category	Expected Service	Penalty
1	Hardware replacement	Up to 24 hours	No Penalty
2	Replacement between 24-36 hours		Rs. 100 per hour
3	Replacement between 36-48 hours		Rs. 250 per hour
4	Replacement beyond 48 hours		Rs. 500 per hour

2 Penalties for Delay in Delivery and Installation

- **Delivery Delays:** Non-compliance with the agreed delivery timelines.
    - **Penalty: 0.50**% of the invoice value per week or part thereof for the delay.
- Installation, Configuration, and Implementation Delays: Non-compliance with installation timelines.
    - **Penalty:** 0.50% of the invoice value per week or part thereof for the delay.

3 Additional Penalties for Manpower Availability

For critical roles in operations and management, penalties apply if manpower is unavailable for more than a specified number of shifts in a quarter.

Absence Shifts Per Role in a Quarter	Penalty/Actions
>0 but <=10	No. of absence shifts × defined penalty for the role
>10 but <=30	No. of absence shifts × 2 × defined penalty for the role
>30	No. of absence shifts × 2 × defined penalty, and issue a letter of warning

Penalty for Non-Availability:

- **Operations Manager**: Rs. 2000 per day of absence.
- **Network Administrator/System Administrator**: Rs. 2000 per day.
- **NOC Engineer**: Rs. 1000 per day.
- **Data Entry Operator/Office Staff**: Rs. 500 per day.
- **Road Safety Analyst**: Rs. 2000 per day

4 Security Management SLA

- **Virus Protection**: Resolution time for virus attacks: 12-36 hours depending on severity.
    - **Penalty**: Rs. 3000 for every delay of 24 hours or part thereof.
- **Data Theft or Loss**: Zero incidents of data theft or loss.
    - **Penalty**: Rs. 100,000 per incident.
- **Security Incidents/Configuration Issues**: Resolution time of 4 hours for any security incident related to configuration.
    - **Penalty**: Rs. 5000 for every delay of 1 hour.

5 Termination Triggers

- **Termination Condition:** A score of 0 points in any SLA category for two consecutive quarters within a 12-month period may trigger contract termination.
- **Cumulative Penalties:** Penalties from different SLA categories will accumulate, reflecting the total penalty on the quarterly invoice value.

6 Penalty Cap

- **Maximum Penalty:** The total penalties for each quarter, excluding manpower availability, shall not exceed 20% of the quarterly O&M charges.
- If penalties persist at 20% for two consecutive quarters, the penalty cap will be raised to 30% of quarterly O&M charges.

C. Training & Capacity building

SR	Requirements	M/P/O*
1.	**TRAINING**:	
1.1.	On the Job Training:	
	The candidate Contractor has to offer a comprehensive training program for both On-Site and Off-site training for all components of the implemented environment.	**M**
	This will take place during implementation and operation training to the Purchaser 's officials and technicians for all of the above supplies. This training should include implementation, operations, configuration, and field maintenance instructions of the implemented system. The training schedule will be mutually agreed upon. The training should be for up to 10 Officials/Engineers/technicians	
	The candidate Contractor shall indicate following in the proposal:	**M**
	A. Training Requirements: The contractor shall recommend the training required for Purchaser 's staff for complete operation, and field maintenance of the system. It shall include the list of courses, duration, location of the training centers offering the course, number of trainees for each course, intended certification and complete cost including boarding and lodging (if applicable) for each course.	
	B. Trainees Qualification: The contractor shall also recommend the prior qualification required for each course if any and assist the Purchaser in selection of trainees for system operation. If pre-qualifications are not available, then the required steps to acquire those should be included by the candidate contractor.	

SR	Requirements	M/P/O*
	C. Training Methodology: The candidate contractor may plan on the job training for Purchaser 's staff spread over a period of one year. The candidate contractor will ensure that sufficient number of Purchaser 's staff is adequately trained to take over complete system operations and maintenance after five years from date of commissioning.	
	The preferred location for trainings is Shimla. Where adequate training required for certification is not available in the preferred location, then on-line training and certification should be offered.	**P**
	Where both preferred location and online training is not available, candidate contractor will provide justification for an off-site training, including costs and required timeframe for certification.	**P**
	During the maintenance time, training should be provided to up to ten (10) relevant staff members. The contract should require training and turnover of the project to HP police prior to the end of the maintenance and operating period.	**M**
	Security	
	- All personal data captured should be used for the purpose it was originally captured for.	**M**
	- The system shall enforce a password expiration rule in which the user must change their password every three months. If the user does not change their password upon the expired term, then the account will be denied access to the environment automatically.	**M**
	- When a user has not logged in to the RSES-system for two months or more since last using the system, the account should be disabled	**M**
	- The system shall disable the user account after three failed attempts to enter a password.	**M**
	- The RSES-system shall only permit one person to have one user account via a unique username. Users shall not be permitted to share their username with other persons who may use it to log in and access the IRSES-system.	**M**
	- The system shall record all user logins with the username, date, time, IP address and client browser information to aid forensic audit in case of any breach of system.	**M**
	The candidate contractor is expected to detail in the technical proposal the extended support structure for the full contract period (for 5 years, if any restriction applies) x Number, level and type of included support calls × amounts, type and severity of included incidents /problems	**M**

D. Timeline and Project Schedule

1.	Project Schedule	Timeline
2.	Kick-off Meeting and Project detailed Schedule submission	T0+3 weeks
3.	Pilot Demonstration	T0+15 weeks
4.	Project Testing and Validation	T0+ 5 months
5.	Start of Challaning	T0+5 months
6.	Project Roll out (Project roll out plan to be decided jointly)	T0+6 months
7.	IRSES operations & management	5 Year from the date of Commissioning
8.	IRSES maintenance	During 5 Year from the date of Commissioning
9.	IRSES training	4th Year from the date of commissioning

T0 – Date of Commencement

E. Deliverables

The following key Task are covered under the scope Deliverable as part of Technical RFB:

No.	Deliverable	Timeline from the date of commencement)	Payment (%)
1.	The Supplier should submit a Project Implementation plan and schedule with site viability report and get approval from HP police & HPRIDCL with in the two weeks of project award. The Report should include • Project management and time schedule for Delivery. • Project Controls. • Quality management. • High-level Design Document • Project Risk Management. • Procurement. • Transportation and Delivery of Hardware. • Project milestones • Testing and documentation • Low Level Design document • OEM Warranty details • Customer Ownership documents • Commissioning. • Project sign-off.	3 weeks	4%
2.	Hardware Delivery report and Asset Inventory List (3 separate Invoices with minimum value of 7% of Contract Price can be claimed based on supply	Within the period of 5 months	30%

No.	Deliverable	Timeline from the date of commencement)	Payment (%)
	and inventory acceptance. The maximum claim percentage under this deliverable is 30% of the Contract Price as mentioned in the payment percentage).		
3.	Report of Pilot Demonstration with end user acceptance	15 weeks	
4.	Detailed project implementation report at the project testing time which explains traffic rules enforcement and how violations are captured throughout the supply, e-challan systems and payment gateways and collection centres.	Within 4 months	
5.	Supplier should provide training and Certifications (if any) for Department persons to manage the administration and operations of the IRSES software modules.	Within 5 months	
6.	Should provide Requirement specification and implemented product details with supporting screenshots (document) which know as Low-level design	5 months	
7.	Schematic Diagram (hardcopy and soft copy)	5 months	
8.	Low level Design document (LLD) with detailed Implementation and operation procedure report	5 Months	
9.	Ownership details of implemented hardware and software with 5-year warranty, OEM SLA and RMA process documents	5 months	
10.	Final Test Report duly signed accepted by the HP police and technical consultant. Document proof of the five-year Hardware and software OEM warranty Support of all components quoted as per the Technical RFB.	6 months	40 %
11.	Quarterly maintenance report (Every three months) for five years		
12.	Half year Periodical report including the approval of quarterly maintenance report-	First half of 1st year after commissioning	2%
13.	Half year Periodical report including the approval of quarterly maintenance report	Second half of 1st year after commissioning	2%
14.	Half year Periodical report including the approval of quarterly maintenance report-	First half of 2nd year after commissioning	2%
15.	Half year Periodical report including the approval of quarterly maintenance report-	Second half of 2nd year after	2%

No.	Deliverable	Timeline from the date of commencement)	Payment (%)
		commissioning	
16.	Half year Periodical report including the approval of quarterly maintenance report	First half of 3rd year after commissioning	2%
17.	Half year Periodical report including the approval of quarterly maintenance report-	Second half of 3rd year after commissioning	2%
18.	Half year Periodical report including the approval of quarterly maintenance report-	First half of 4th year after commissioning	2%
19.	Half year Periodical report including the approval of quarterly maintenance report-(including training report)	Second half of 4th year after commissioning	4%
20.	Half year Periodical report including the approval of quarterly maintenance report- (including Training cum on job training report)	First half of 5th year after commissioning	4%
21.	Half year Periodical report including the approval of quarterly maintenance report- (including on job training report)	Second half of 5th year after commissioning	4 %

Payment after Hardware delivery report and asset inventory list

Payment for **supply/installation** shall be made after submitting the certified Good receipt or installation report along with the bill on actuals **signed by** duly authorized person. After executing the Contract Agreement, the Supplier has to enter into an MSA, or SLA with the HPRIDCL and execute a tripartite agreement with HPRIDCL and HP Police. Approval of the following should be submitted with the invoice:

- Demonstration report & Asset Inventory List
- Ownership details of implemented hardware and software with warranty, OEM SLA and RMA process documents

Payment after project implementation and testing

Payment shall be made after Final Test Report duly signed and accepted by the HP police and HPRIDCL. Document proof of the five-year Hardware and software OEM warranty Support of all components should be submitted with the invoice.

Payment after periodical report on every 6 months for 5 years

Supplier should provide following details in periodical report on every 6 months after commissioning of IRSES along with the invoice

- Manpower utilization and monthly attendance report
- Team performance report
- Upcoming and deferred preventive maintenance

- 3 months quarterly maintenance report during 6-month period

Maintenance report on every 3 months for 5 years

Supplier should submit quarterly maintenance report on every 3 months for 5 years.

- Mean time between failures (MTBF), Mean time to repair / recovery (MTTR) and RCA
- Periodical Maintenance and Health checkups reports for all IT and Non-IT components.
- Server and Network DOWNTIME and UPTIME Report
- Report of the Number of issues raised and average issue handled time, SLA breaches
- Back up and resorting report
- Non-IT downtime and uptime report

F. Personnel Capabilities- Key Personnel

Bidders should provide the names and details of the suitably qualified Personnel to perform the Contract. The data on their experience should be supplied using the Form outlined in RFB. for each candidate.

Man Months requires during supply, installation and commissioning phase

Sl No	Key experts	Nos	Man Months
1.	Project Officer	1	6 Months
2.	Operations Manager	1	3 Months
3.	Systems Analyst-	1	4 Months
4.	Technical/Solutions Architect-	1	4 Months
5.	Database architect-	1	4 Months
6.	ITS Design Engineer-	1	4 Months
7.	Systems Administrator	1	4 Months

Man Months requires during Operations and maintenance phase

Sl No	Key experts	Nos	Man Months
1	Operations Manager	1	60 Months
2	Road safety data analyst (intermittent)	1	12 months
Sub Key Experts			
1	Network administrator	2	60 months each
2	System administrator	2	60 months each

	Support staffs	Nos	Man Months

Sl No			
1.	Data entry Operator	15	60 months each
2.	Office staff (print & despatch)	3	60 months each

G. Key Experts qualification and experience- Phase-1

SL NO	Key expert position	Qualification	Experience & Expertise
8.	Project Officer	Graduate with PMP Certification or Equivalent	Should have minimum 7 Years' Experience in Traffic Enforcement project. Should have handled 3 or more similar projects.
9.	Operations Manager	Graduate with PMP Certification or Equivalent	Should have minimum 5 Years' Experience in Traffic Enforcement project. Should have handled 2 or more similar projects.
10.	Systems Analyst-	BTech in Information Technology with Professional Level IT Certifications in Storage, Server, and Virtualization Platforms	Should have minimum 7 years of Experience in Data center Projects. With ITMS project and Challan System operation experience.
11.	Technical/Solutions Architect-	Graduate in Information Technology with Professional Level IT Certifications in Routing, Switching and Firewalls	Should have minimum 7 years of experience in relevant technology and implemented minimum one project with 200+ sites connectivity using MPLS or SDWAN or WAN networks.
12.	Database architect-	Graduate in Information Technology with Database Administrative	Should have minimum 5 years of experience in relevant technology and implemented one project with database of similar use case.
13.	ITS Design Engineer-	Graduate with relevant technology Certifications	Should have minimum 5 year experience in implementation of CCTV, VMS technology with 200+ road safety or public Surveillance projects as part of smart city or any Government surveillance projects
14.	Systems Administrator	BTech in Information Technology with Professional Level IT Certifications in Storage, Server, and Virtualization Platforms	Should have minimum 5 years of Experience in Data center Projects. With Virtualization and SAN storage

H. Key Experts qualification and experience- Phase-2

SL NO	Key expert position	Qualification	Experience & Expertise
1.	Operations Manager	Post Graduate with Graduation in IT Technical Subjects or B. tech	Should have minimum 5 Years' Experience in ITMS project. Should have handled project have 100 or more sites/branches.
2.	Road safety analyst	Bachelor qualification in the relevant field.	Should have 7 years' experience in road safety data analysis, data interpretation and reporting

I. Sub Key Experts Required

Sl No	Sub Key expert position	Qualification	Experience & Expertise
1.	System administrator	Graduate with CCNA & CCNP level of Certifications	Should have Minimum 3 years of experience in Server/storage/Networking domains
2.	Network administrator	Diploma or Graduate in IT with CCNA level of certification	Should have minimum 3 year of experience in IT implementation projects

Table of Contents: System Inventory Tables

A. System Inventory Table – Supply and Installation Cost Items 279

A. SYSTEM INVENTORY TABLE – SUPPLY AND INSTALLATION COST ITEMS

tem No.	Description of Goods and Services	UoM	Tentative Quantity	Make and Models to be Quoted by the Bidder
I	**Control Room**			
A	**Passive Components**			
1.1	Indoor Smart Racks - 42U (for DC)	Nos.	3	
1.2	Structured Cabling for Control Room	Lot	1	
1.3	42U Open Rack for Passive	Nos.	1	
1.4	DC Infrastructure (cooling, fire, smoke detection, and suppression solutions)	Lot	1	
1.5	Raised Floor and DC Build	Lot	1	
1.6	Access Control System and Surveillance	Lot	1	
B	**Data Centre Core Infrastructure**			
2.1	LAN Switches Non-PoE	Nos.	2	
2.2	LAN Switches PoE	Nos.	3	
2.3	Transceiver- Single Mode- 10 G	Nos.	20	
2.4	Core Switches	Nos.	2	
2.5	Data Center Leaf Switches	Nos.	2	
2.6	Virtualization Server	Nos	3	
2.7	Storage	Nos.	1	
2.8	Next Generation Firewall (NGFW) with WAF	Nos.	2	
2.9	Enterprise Anti-Virus and End-Point Security	Nos./ Users	40	
2.10	Enterprise Anti-Virus for Servers	Nos.	15	
2.11	Linux/Windows Operating Systems and Database as per Solution requirements	Lot	1	
2.12	Provision of structured cabling in the Data Centre for approx. 50 Nos. of Network Nodes	Lot	1	

2.13	Work Station	Nos.	5	
2.14	Desktop	Nos	35	
2.15	Video Wall (Control Room)	Nos.	1	
2.16	55" Display for SoC room	Nos	2	
2.17	Conference room solutions	Nos	1	
2.18	MF Printer	Nos	1	
2.19	Heavy Duty Printers	Nos	2	
2.20	Wi-Fi 6 AP	Nos	6	
C	**Software for Control Room**			
3.1	VMS Application	Lot	1	
3.2	Central application for Speed, ANPR, with E-Challan	Lot	1	
3.3	Web based central traffic management platform for DC with minimum 15 operator licenses.			
3.4	VMS Channel Licenses	Nos	200	
3.5	AI-based Video analytics License	Nos	350	
3.6	Integration with Vahan database of NIC	Lot	1	
3.7.	NMS Applications	Lot	1	
II	**Field Components**			
4.1	Outdoor Rack for camera locations	Nos	214	
4.2	Field Firewall	Nos.	214	
4.3	Industrial Grade Edge Switches	Nos	214	
4.4	Galvanized Traffic Signal Cantilever Poles and Its Civil Works	Nos	214	
4.5	ANPR Camera and software License	Nos.	400	
4.6	Fixed / Bullet Cameras for Surveillance	Nos.	132	
4.7	Radar	Nos.	73	
4.8	Construction of foundation for GI Poles as per the drawing and technical specifications	Nos.	214	
4.9	System Integration and Implementation of Cameras (including supply and installation of Passive & allied accessories)	Lot	1	

4.10	No Helmet Software module	Nos	258	
4.11	Triple Riding Software Module	Nos	258	
4.12	No Parking/Wrong way software module	Nos	258	
4.13	Speed Violation Sensor	Nos	146	
4.14	No Seat Belt and Wrong Way/Over taking	Nos	89	
4.15	Local Processing Unit	Nos	199	
4.16	IR Lights	Nos	400	
III	**Internet and Power**			
5.1	One-Time Installation Charges of ISP for Control Room and Field Locations	Lot	1	
5.2	Electricity Charges -installation for Control Room and Field Locations	Lot	1	
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PART 3 – CONDITIONS OF CONTRACT AND CONTRACT FORMS

SECTION VIII - GENERAL CONDITIONS OF CONTRACT

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General Conditions of Contract

A. CONTRACT AND INTERPRETATION

1. Definitions

1.1 In this Contract, the following terms shall be interpreted as indicated below.

(a) contract elements

(i) "Contract" means the Contract Agreement entered into between the Purchaser and the Supplier, together with the Contract Documents referred to therein. The Contract Agreement and the Contract Documents shall constitute the Contract, and the term "the Contract" shall in all such documents be construed accordingly.

(ii) "Contract Documents" means the documents specified in Article 1.1 (Contract Documents) of the Contract Agreement (including any amendments to these Documents).

(iii) "Contract Agreement" means the agreement entered into between the Purchaser and the Supplier using the form of Contract Agreement contained in the Sample Contractual Forms Section of the bidding documents and any modifications to this form agreed to by the Purchaser and the Supplier. The date of the Contract Agreement shall be recorded in the signed form.

(iv) "GCC" means the General Conditions of Contract.

(v) "SCC" means the Special Conditions of Contract.

(vi) "Technical Requirements" means the Technical Requirements in Section VII of the bidding documents.

(vii) "Implementation Schedule" means the Implementation Schedule in Section VII of the bidding documents.

viii) "Contract Price" means the price or prices defined in Article 2 (Contract Price and Terms of Payment) of the Contract Agreement.

(ix) "Procurement Regulations" refers to the edition **specified in the SCC** of the World Bank "Procurement Regulations for IPF Borrowers".

(x) "bidding documents" refers to the collection of documents issued by the Purchaser to instruct and

inform potential suppliers of the processes for bidding, selection of the winning bid, and Contract formation, as well as the contractual conditions governing the relationship between the Purchaser and the Supplier. The General and Special Conditions of Contract, the Technical Requirements, and all other documents included in the bidding documents reflect the Procurement Regulations that the Purchaser is obligated to follow during procurement and administration of this Contract.

(b) entities

(i) "Purchaser" means the entity purchasing the Information System, as **specified in the SCC.**

(ii) "Project Manager" means the person **named as such in the SCC** or otherwise appointed by the Purchaser in the manner provided in GCC Clause 18.1 (Project Manager) to perform the duties delegated by the Purchaser.

(iii) "Supplier" means the firm or Joint Venture whose bid to perform the Contract has been accepted by the Purchaser and is named as such in the Contract Agreement.

(iv) "Supplier's Representative" means any person nominated by the Supplier and named as such in the Contract Agreement or otherwise approved by the Purchaser in the manner provided in GCC Clause 18.2 (Supplier's Representative) to perform the duties delegated by the Supplier.

(v) "Subcontractor" means any firm to whom any of the obligations of the Supplier, including preparation of any design or supply of any Information Technologies or other Goods or Services, is subcontracted directly or indirectly by the Supplier.

(vi) "Adjudicator" means the person named in Appendix 2 of the Contract Agreement, appointed by agreement between the Purchaser and the Supplier to make a decision on or to settle any dispute between the Purchaser and the Supplier referred to him or her by the parties, pursuant to GCC Clause 43.1 (Adjudication).

(vii) "The World Bank" (also called "The Bank") means the International Bank for Reconstruction and Development (IBRD) or the International

Development Association (IDA).

(c) scope

(i) "Information System," also called "the System," means all the Information Technologies, Materials, and other Goods to be supplied, installed, integrated, and made operational (exclusive of the Supplier's Equipment), together with the Services to be carried out by the Supplier under the Contract.

(ii) "Subsystem" means any subset of the System identified as such in the Contract that may be supplied, installed, tested, and commissioned individually before Commissioning of the entire System.

(iii) "Information Technologies" means all information processing and communications-related hardware, Software, supplies, and consumable items that the Supplier is required to supply and install under the Contract.

(iv) "Goods" means all equipment, machinery, furnishings, Materials, and other tangible items that the Supplier is required to supply or supply and install under the Contract, including, without limitation, the Information Technologies and Materials, but excluding the Supplier's Equipment.

(v) "Services" means all technical, logistical, management, and any other Services to be provided by the Supplier under the Contract to supply, install, customize, integrate, and make operational the System. Such Services may include, but are not restricted to, activity management and quality assurance, design, development, customization, documentation, transportation, insurance, inspection, expediting, site preparation, installation, integration, training, data migration, Pre-commissioning, Commissioning, maintenance, and technical support.

(vi) "The Project Plan" means the document to be developed by the Supplier and approved by the Purchaser, pursuant to GCC Clause 19, based on the requirements of the Contract and the Preliminary Project Plan included in the Supplier's bid. The "Agreed Project Plan" is the version of the Project Plan approved by the Purchaser, in accordance with GCC Clause 19.2. Should the Project Plan conflict with the Contract in any way, the relevant provisions of the Contract, including any amendments, shall

prevail.

(vii) "Software" means that part of the System which are instructions that cause information processing Subsystems to perform in a specific manner or execute specific operations.

(viii) "System Software" means Software that provides the operating and management instructions for the underlying hardware and other components, and is identified as such in Appendix 4 of the Contract Agreement and such other Software as the parties may agree in writing to be Systems Software. Such System Software includes, but is not restricted to, micro-code embedded in hardware (i.e., "firmware"), operating systems, communications, system and network management, and utility software.

(ix) "General-Purpose Software" means Software that supports general-purpose office and software development activities and is identified as such in Appendix 4 of the Contract Agreement and such other Software as the parties may agree in writing to be General- Purpose Software. Such General-Purpose Software may include, but is not restricted to, word processing, spreadsheet, generic database management, and application development software.

(x) "Application Software" means Software formulated to perform specific business or technical functions and interface with the business or technical users of the System and is identified as such in Appendix 4 of the Contract Agreement and such other Software as the parties may agree in writing to be Application Software.

(xi) "Standard Software" means Software identified as such in Appendix 4 of the Contract Agreement and such other Software as the parties may agree in writing to be Standard Software.

(xii) "Custom Software" means Software identified as such in Appendix 4 of the Contract Agreement and such other Software as the parties may agree in writing to be Custom Software.

(xiii) "Source Code" means the database structures, dictionaries, definitions, program source files, and any other symbolic representations necessary for the compilation, execution, and subsequent maintenance of the Software (typically, but not exclusively,

required for Custom Software).

(xiv) "Materials" means all documentation in printed or printable form and all instructional and informational aides in any form (including audio, video, and text) and on any medium, provided to the Purchaser under the Contract.

(xv) "Standard Materials" means all Materials not specified as Custom Materials.

(xvi) "Custom Materials" means Materials developed by the Supplier at the Purchaser's expense under the Contract and identified as such in Appendix 5 of the Contract Agreement and such other Materials as the parties may agree in writing to be Custom Materials. Custom Materials includes Materials created from Standard Materials.

(xvii) "Intellectual Property Rights" means any and all copyright, moral rights, trademark, patent, and other intellectual and proprietary rights, title and interests worldwide, whether vested, contingent, or future, including without limitation all economic rights and all exclusive rights to reproduce, fix, adapt, modify, translate, create derivative works from, extract or re-utilize data from, manufacture, introduce into circulation, publish, distribute, sell, license, sublicense, transfer, rent, lease, transmit or provide access electronically, broadcast, display, enter into computer memory, or otherwise use any portion or copy, in whole or in part, in any form, directly or indirectly, or to authorize or assign others to do so.

(xviii) "Supplier's Equipment" means all equipment, tools, apparatus, or things of every kind required in or for installation, completion and maintenance of the System that are to be provided by the Supplier, but excluding the Information Technologies, or other items forming part of the System.

(d) activities

(i) "Delivery" means the transfer of the Goods from the Supplier to the Purchaser in accordance with the current edition Incoterms specified in the Contract.

(ii) "Installation" means that the System or a Subsystem as specified in the Contract is ready for Commissioning as provided in GCC Clause 26 (Installation).

(iii) "Pre-commissioning" means the testing, checking, and any other required activity that may be specified in the Technical Requirements that are to be carried out by the Supplier in preparation for Commissioning of the System as provided in GCC Clause 26 (Installation).

(iv) "Commissioning" means operation of the System or any Subsystem by the Supplier following Installation, which operation is to be carried out by the Supplier as provided in GCC Clause 27.1 (Commissioning), for the purpose of carrying out Operational Acceptance Test(s).

(v) "Operational Acceptance Tests" means the tests specified in the Technical Requirements and Agreed Project Plan to be carried out to ascertain whether the System, or a specified Subsystem, is able to attain the functional and performance requirements specified in the Technical Requirements and Agreed Project Plan, in accordance with the provisions of GCC Clause 27.2 (Operational Acceptance Test).

(vi) "Operational Acceptance" means the acceptance by the Purchaser of the System (or any Subsystem(s) where the Contract provides for acceptance of the System in parts), in accordance with GCC Clause 27.3 (Operational Acceptance).

(e) place and time

(i) "Purchaser's Country" is the **country named in the SCC.**

(ii) "Supplier's Country" is the country in which the Supplier is legally organized, as named in the Contract Agreement.

(iii) **Unless otherwise specified in the SCC** "Project Site(s)" means the place(s) in the Site Table in the Technical Requirements Section for the supply and installation of the System.

(iv) "Eligible Country" means the countries and territories eligible for participation in procurements financed by the World Bank as defined in the Procurement Regulations.

(v) "Day" means calendar day of the Gregorian Calendar.

(vi) "Week" means seven (7) consecutive Days, beginning the day of the week as is customary in the Purchaser's Country.

(vii) "Month" means calendar month of the Gregorian Calendar.

(viii) "Year" means twelve (12) consecutive Months.

(ix) "Effective Date" means the date of fulfillment of all conditions specified in Article 3 (Effective Date for Determining Time for Achieving Operational Acceptance) of the Contract Agreement, for the purpose of determining the Delivery, Installation, and Operational Acceptance dates for the System or Subsystem(s).

(x) "Contract Period" is the time period during which this Contract governs the relations and obligations of the Purchaser and Supplier in relation to the System, as **unless otherwise specified in the SCC,** the Contract shall continue in force until the Information System and all the Services have been provided, unless the Contract is terminated earlier in accordance with the terms set out in the Contract**.**

(xi) "Defect Liability Period" (also referred to as the "Warranty Period") means the period of validity of the warranties given by the Supplier commencing at date of the Operational Acceptance Certificate of the System or Subsystem(s), during which the Supplier is responsible for defects with respect to the System (or the relevant Subsystem[s]) as provided in GCC Clause 29 (Defect Liability).

(xii) "The Coverage Period" means the Days of the Week and the hours of those Days during which maintenance, operational, and/or technical support services (if any) must be available.

(xiii) The Post-Warranty Services Period" means the number of years **defined in the SCC** (if any), following the expiration of the Warranty Period during which the Supplier may be obligated to provide Software licenses, maintenance, and/or technical support services for the System, either under this Contract or under separate contract(s).

2. Contract Documents

2.1 Subject to Article 1.2 (Order of Precedence) of the Contract Agreement, all documents forming part of the Contract (and all parts of these documents) are intended to be correlative, complementary, and mutually explanatory. The Contract shall be read as a whole.

3. Interpretation

3.1 Governing Language

3.1.1 **Unless otherwise specified in the SCC**, all Contract Documents and related correspondence exchanged between Purchaser and Supplier shall be written in the language of these bidding documents (English)**,** and the Contract shall be construed and interpreted in accordance with that language.

3.1.2 If any of the Contract Documents or related correspondence are prepared in a language other than the governing language under GCC Clause 3.1.1 above, the translation of such documents into the governing language shall prevail in matters of interpretation. The originating party, with respect to such documents shall bear the costs and risks of such translation.

3.2 Singular and Plural

The singular shall include the plural and the plural the singular, except where the context otherwise requires.

3.3 Headings

The headings and marginal notes in the GCC are included for ease of reference and shall neither constitute a part of the Contract nor affect its interpretation.

3.4 Persons

Words importing persons or parties shall include firms, corporations, and government entities.

3.5 Incoterms

Unless inconsistent with any provision of the Contract, the meaning of any trade term and the rights and obligations of parties thereunder shall be as prescribed by the Incoterms

Incoterms means international rules for interpreting trade terms published by the International Chamber of Commerce (latest edition), 38 Cours Albert 1er, 75008 Paris, France.

3.6 Entire Agreement

The Contract constitutes the entire agreement between the Purchaser and Supplier with respect to the subject matter of Contract and supersedes all communications, negotiations, and agreements (whether written or oral) of parties with respect to the subject matter of the Contract made prior to the date of Contract.

3.7 Amendment

No amendment or other variation of the Contract shall be effective unless it is in writing, is dated, expressly refers to the Contract, and is signed by a duly authorized representative of

each party to the Contract.

3.8 Independent Supplier

The Supplier shall be an independent contractor performing the Contract. The Contract does not create any agency, partnership, joint venture, or other joint relationship between the parties to the Contract.

Subject to the provisions of the Contract, the Supplier shall be solely responsible for the manner in which the Contract is performed. All employees, representatives, or Subcontractors engaged by the Supplier in connection with the performance of the Contract shall be under the complete control of the Supplier and shall not be deemed to be employees of the Purchaser, and nothing contained in the Contract or in any subcontract awarded by the Supplier shall be construed to create any contractual relationship between any such employees, representatives, or Subcontractors and the Purchaser.

3.9 Joint Venture

If the Supplier is a Joint Venture of two or more firms, all such firms shall be jointly and severally bound to the Purchaser for the fulfillment of the provisions of the Contract and shall designate one of such firms to act as a leader with authority to bind the Joint Venture. The composition or constitution of the Joint Venture shall not be altered without the prior consent of the Purchaser.

3.10 Nonwaiver

3.10.1 Subject to GCC Clause 3.10.2 below, no relaxation, forbearance, delay, or indulgence by either party in enforcing any of the terms and conditions of the Contract or the granting of time by either party to the other shall prejudice, affect, or restrict the rights of that party under the Contract, nor shall any waiver by either party of any breach of Contract operate as waiver of any subsequent or continuing breach of Contract.

3.10.2 Any waiver of a party's rights, powers, or remedies under the Contract must be in writing, must be dated and signed by an authorized representative of the party granting such waiver, and must specify the right and the extent to which it is being waived.

3.11 Severability

If any provision or condition of the Contract is prohibited or rendered invalid or unenforceable, such prohibition, invalidity, or unenforceability shall not affect the validity or enforceability of

any other provisions and conditions of the Contract.

3.12 Country of Origin

"Origin" means the place where the Information Technologies, Materials, and other Goods for the System were produced or from which the Services are supplied. Goods are produced when, through manufacturing, processing, Software development, or substantial and major assembly or integration of components, a commercially recognized product results that is substantially different in basic characteristics or in purpose or utility from its components. The Origin of Goods and Services is distinct from the nationality of the Supplier and may be different.

4. Notices

4.1 Unless otherwise stated in the Contract, all notices to be given under the Contract shall be in writing and shall be sent, pursuant to GCC Clause 4.3 below, by personal delivery, airmail post, special courier, cable, telegraph, telex, facsimile, electronic mail, or Electronic Data Interchange (EDI), with the following provisions.

4.1.1 Any notice sent by cable, telegraph, telex, facsimile, electronic mail, or EDI shall be confirmed within two (2) days after dispatch by notice sent by airmail post or special courier, except as otherwise specified in the Contract.

4.1.2 Any notice sent by airmail post or special courier shall be deemed (in the absence of evidence of earlier receipt) to have been delivered ten (10) days after dispatch. In proving the fact of dispatch, it shall be sufficient to show that the envelope containing such notice was properly addressed, stamped, and conveyed to the postal authorities or courier service for transmission by airmail or special courier.

4.1.3 Any notice delivered personally or sent by cable, telegraph, telex, facsimile, electronic mail, or EDI shall be deemed to have been delivered on the date of its dispatch.

4.1.4 Either party may change its postal, cable, telex, facsimile, electronic mail, or EDI addresses for receipt of such notices by ten (10) days' notice to the other party in writing.

4.1.5 Oral instructions, if any shall be confirmed in writing within seven (7) working days.

4.2 Notices shall be deemed to include any approvals, consents, instructions, orders, certificates, information and other communication to be given under the Contract.

4.3 Pursuant to GCC Clause 18, notices from/to the Purchaser are normally given by, or addressed to, the Project Manager, while notices from/to the Supplier are normally given by, or addressed to, the Supplier's Representative, or in its absence its deputy if

any. If there is no appointed Project Manager or Supplier's Representative (or deputy), or if their related authority is limited by the SCC for GCC Clauses 18.1 or 18.2.2, or for any other reason, the Purchaser or Supplier may give and receive notices at their fallback addresses. The address of the Project Manager and the fallback address of the Purchaser are as **specified in the SCC** or as subsequently established/amended. The address of the Supplier's Representative and the fallback address of the Supplier are as specified in Appendix 1 of the Contract Agreement or as subsequently established/amended.

5. Governing Law

5.1 The Contract shall be governed by and interpreted in accordance with the laws of the country **specified in the SCC**.

5.2 Throughout the execution of the Contract, the Supplier shall comply with the import of goods and services prohibitions in the Purchaser's Country when

(a) as a matter of law or official regulations, the Borrower's country prohibits commercial relations with that country; or

5.3 by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, the Borrower's Country prohibits any import of goods from that country or any payments to any country, person, or entity in that country.

6. Fraud and Corruption

6.1 The Bank requires compliance with the Bank's Anti-Corruption Guidelines and its prevailing sanctions policies and procedures as set forth in the WBG's Sanctions Framework, as set forth in the Appendix to the GCC.

6.2 The Purchaser requires the Suppliers to disclose any commissions or fees that may have been paid or are to be paid to agents or any other party with respect to the bidding process or execution of the Contract. The information disclosed must include at least the name and address of the agent or other party, the amount and currency, and the purpose of the commission, gratuity or fee.

B. SUBJECT MATTER OF CONTRACT

7. Scope of the System

7.1 Unless otherwise expressly **limited in the SCC** or Technical Requirements, the Supplier's obligations cover the provision of all Information Technologies, Materials and other Goods as well as the performance of all Services required for the design, development, and implementation (including procurement, quality assurance, assembly, associated site preparation, Delivery, Pre-commissioning, Installation, Testing, and Commissioning) of the System, in accordance with the plans,

procedures, specifications, drawings, codes, and any other documents specified in the Contract and the Agreed Project Plan.

7.2 The Supplier shall, unless specifically excluded in the Contract, perform all such work and / or supply all such items and Materials not specifically mentioned in the Contract but that can be reasonably inferred from the Contract as being required for attaining Operational Acceptance of the System as if such work and / or items and Materials were expressly mentioned in the Contract.

7.3 The Supplier's obligations (if any) to provide Goods and Services as implied by the Recurrent Cost tables of the Supplier's bid, such as consumables, spare parts, and technical services (e.g., maintenance, technical assistance, and operational support), are as **specified in the SCC,** including the relevant terms, characteristics, and timings.

8. Time for Commencement and Operational Acceptance

8.1 The Supplier shall commence work on the System within the period **specified in the SCC,** and without prejudice to GCC Clause 28.2, the Supplier shall thereafter proceed with the System in accordance with the time schedule specified in the Implementation Schedule and any refinements made in the Agreed Project Plan.

8.2 The Supplier shall achieve Operational Acceptance of the System (or Subsystem(s) where a separate time for Operational Acceptance of such Subsystem(s) is specified in the Contract) in accordance with the time schedule specified in the Implementation Schedule and any refinements made in the Agreed Project Plan, or within such extended time to which the Supplier shall be entitled under GCC Clause 40 (Extension of Time for Achieving Operational Acceptance).

9. Supplier's Responsibilities

9.1 The Supplier shall conduct all activities with due care and diligence, in accordance with the Contract and with the skill and care expected of a competent provider of information technologies, information systems, support, maintenance, training, and other related services, or in accordance with best industry practices. In particular, the Supplier shall provide and employ only technical personnel who are skilled and experienced in their respective callings and supervisory staff who are competent to adequately supervise the work at hand.

9.2 The Supplier confirms that it has entered into this Contract on the basis of a proper examination of the data relating to the System provided by the Purchaser and on the basis of information that the Supplier could have obtained from a visual inspection of the site (if access to the site was available) and of other data readily available to the Supplier relating to the System as at the date twenty-eight (28) days prior to bid submission. The Supplier

acknowledges that any failure to acquaint itself with all such data and information shall not relieve its responsibility for properly estimating the difficulty or cost of successfully performing the Contract.

9.3 The Supplier shall be responsible for timely provision of all resources, information, and decision making under its control that are necessary to reach a mutually Agreed Project Plan (pursuant to GCC Clause 19.2) within the time schedule specified in the Implementation Schedule. Failure to provide such resources, information, and decision-making may constitute grounds for termination pursuant to GCC Clause 41.2.

9.4 The Supplier shall acquire in its name all permits, approvals, and/or licenses from all local, state, or national government authorities or public service undertakings in the Purchaser's Country that are necessary for the performance of the Contract, including, without limitation, visas for the Supplier's and Subcontractor's personnel and entry permits for all imported Supplier's Equipment. The Supplier shall acquire all other permits, approvals, and/or licenses that are not the responsibility of the Purchaser under GCC Clause 10.4 and that are necessary for the performance of the Contract.

9.5 The Supplier shall comply with all laws in force in the Purchaser's Country. The laws will include all national, provincial, municipal, or other laws that affect the performance of the Contract and are binding upon the Supplier. The Supplier shall indemnify and hold harmless the Purchaser from and against any and all liabilities, damages, claims, fines, penalties, and expenses of whatever nature arising or resulting from the violation of such laws by the Supplier or its personnel, including the Subcontractors and their personnel, but without prejudice to GCC Clause 10.1. The Supplier shall not indemnify the Purchaser to the extent that such liability, damage, claims, fines, penalties, and expenses were caused or contributed to by a fault of the Purchaser.

9.6 The Supplier shall, in all dealings with its labor and the labor of its Subcontractors currently employed on or connected with the Contract, pay due regard to all recognized festivals, official holidays, religious or other customs, and all local laws and regulations pertaining to the employment of labor.

9.7 Any Information Technologies or other Goods and Services that will be incorporated in or be required for the System and other supplies shall have their Origin, as defined in GCC Clause 3.12, in a country that shall be an Eligible Country, as defined in GCC Clause 1.1 (e) (iv).

9.8 Pursuant to paragraph 2.2 e. of Appendix B to the General

Conditions the Supplier shall permit and shall cause its subcontractors and subconsultants to permit, the Bank and/or persons appointed by the Bank to inspect the Site and/or the accounts and records relating to the procurement process, selection and/or contract execution, and to have such accounts and records audited by auditors appointed by the Bank if requested by the Bank. The Supplier's and its Subcontractors' and subconsultants' attention is drawn to Sub-Clause 6.1 which provides, inter alia, that acts intended to materially impede the exercise of the Bank's inspection and audit rights constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility pursuant to the Bank's prevailing sanctions procedures).

9.9 The Supplier shall conform to the sustainable procurement contractual provisions, if and as **specified in the SCC.**

9.10 **Unless otherwise specified in the SCC** the Supplier shall have no other Supplier responsibilities.

10. Purchaser's Responsibilities

10.1 The Purchaser shall ensure the accuracy of all information and/or data to be supplied by the Purchaser to the Supplier, except when otherwise expressly stated in the Contract.

10.2 The Purchaser shall be responsible for timely provision of all resources, information, and decision making under its control that are necessary to reach an Agreed Project Plan (pursuant to GCC Clause 19.2) within the time schedule specified in the Implementation Schedule. Failure to provide such resources, information, and decision making may constitute grounds for Termination pursuant to GCC Clause 41.3.1 (b).

10.3 The Purchaser shall be responsible for acquiring and providing legal and physical possession of the site and access to it, and for providing possession of and access to all other areas reasonably required for the proper execution of the Contract.

10.4 If requested by the Supplier, the Purchaser shall use its best endeavors to assist the Supplier in obtaining in a timely and expeditious manner all permits, approvals, and/or licenses necessary for the execution of the Contract from all local, state, or national government authorities or public service undertakings that such authorities or undertakings require the Supplier or Subcontractors or the personnel of the Supplier or Subcontractors, as the case may be, to obtain.

10.5 In such cases where the responsibilities of specifying and acquiring or upgrading telecommunications and/or electric power services falls to the Supplier, as specified in the Technical Requirements, SCC, Agreed Project Plan, or other parts of the Contract, the Purchaser shall use its best endeavors to assist the Supplier in obtaining such services in a timely and expeditious

manner.

10.6 The Purchaser shall be responsible for timely provision of all resources, access, and information necessary for the Installation and Operational Acceptance of the System (including, but not limited to, any required telecommunications or electric power services), as identified in the Agreed Project Plan, except where provision of such items is explicitly identified in the Contract as being the responsibility of the Supplier. Delay by the Purchaser may result in an appropriate extension of the Time for Operational Acceptance, at the Supplier's discretion.

10.7 Unless otherwise specified in the Contract or agreed upon by the Purchaser and the Supplier, the Purchaser shall provide sufficient, properly qualified operating and technical personnel, as required by the Supplier to properly carry out Delivery, Pre-commissioning, Installation, Commissioning, and Operational Acceptance, at or before the time specified in the Implementation Schedule and the Agreed Project Plan.

10.8 The Purchaser will designate appropriate staff for the training courses to be given by the Supplier and shall make all appropriate logistical arrangements for such training as specified in the Technical Requirements, SCC, the Agreed Project Plan, or other parts of the Contract.

10.9 The Purchaser assumes primary responsibility for the Operational Acceptance Test(s) for the System, in accordance with GCC Clause 27.2, and shall be responsible for the continued operation of the System after Operational Acceptance. However, this shall not limit in any way the Supplier's responsibilities after the date of Operational Acceptance otherwise specified in the Contract.

10.10 The Purchaser is responsible for performing and safely storing timely and regular backups of its data and Software in accordance with accepted data management principles, except where such responsibility is clearly assigned to the Supplier elsewhere in the Contract.

10.11 All costs and expenses involved in the performance of the obligations under this GCC Clause 10 shall be the responsibility of the Purchaser, save those to be incurred by the Supplier with respect to the performance of the Operational Acceptance Test(s), in accordance with GCC Clause 27.2.

10.12 **Unless otherwise specified in the SCC** the Purchaser shall have no other Purchaser responsibilities.

C. PAYMENT

11. Contract Price

11.1 The Contract Price shall be as specified in Article 2 (Contract Price and Terms of Payment) of the Contract Agreement.

11.2 Unless an adjustment clause is **provided for in the SCC,** the Contract Price shall be a firm lump sum not subject to any alteration, except in the event of a Change in the System pursuant to GCC Clause 39 or to other clauses in the Contract;

11.3 The Supplier shall be deemed to have satisfied itself as to the correctness and sufficiency of the Contract Price, which shall, except as otherwise provided for in the Contract, cover all its obligations under the Contract.

12. Terms of Payment

12.1 The Supplier's request for payment shall be made to the Purchaser in writing, accompanied by an invoice describing, as appropriate, the System or Subsystem(s), Delivered, Pre-commissioned, Installed, and Operationally Accepted, and by documents submitted pursuant to GCC Clause 22.5 and upon fulfillment of other obligations stipulated in the Contract.

The Contract Price shall be paid as **specified in the SCC.**

12.2 No payment made by the Purchaser herein shall be deemed to constitute acceptance by the Purchaser of the System or any Subsystem(s).

12.3 Payments shall be made promptly by the Purchaser, but in no case later than forty five (45) days after submission of a valid invoice by the Supplier. In the event that the Purchaser fails to make any payment by its respective due date or within the period set forth in the Contract, the Purchaser shall pay to the Supplier interest on the amount of such delayed payment at the rate(s) **specified in the SCC** for the period of delay until payment has been made in full, whether before or after judgment or arbitration award.

12.4 Payments shall be made in the currency(ies) specified in the Contract Agreement, pursuant to GCC Clause 11. For Goods and Services supplied locally, payments shall be made **as specified in the SCC.**

12.5 **Unless otherwise specified in the SCC,** payment of the foreign currency portion of the Contract Price for Goods supplied from outside the Purchaser's Country shall be made to the Supplier through an irrevocable letter of credit opened by an authorized bank in the Supplier's Country and will be payable on presentation of the appropriate documents. It is agreed that the letter of credit will be subject to Article 10 of the latest revision of *Uniform Customs and Practice for Documentary Credits*,

published by the International Chamber of Commerce, Paris.

13. Securities

13.1 Issuance of Securities

The Supplier shall provide the securities specified below in favor of the Purchaser at the times and in the amount, manner, and form specified below.

13.2 Advance Payment Security

13.2.1 The Supplier shall provide within twenty-eight (28) days of the notification of Contract award an Advance Payment Security in the amount and currency of the Advance Payment specified in SCC for GCC Clause 12.1 above and valid until the System is Operationally Accepted.

13.2.2 The security shall be in the form provided in the bidding documents or in another form acceptable to the Purchaser. The amount of the security shall be reduced in proportion to the value of the System executed by and paid to the Supplier from time to time and shall automatically become null and void when the full amount of the advance payment has been recovered by the Purchaser. **Unless otherwise specified in the SCC,** the reduction in value and expiration of the Advance Payment Security are calculated as follows:

P*a/(100-a), where "P" is the sum of all payments effected so far to the Supplier (excluding the Advance Payment), and "a" is the Advance Payment expressed as a percentage of the Contract Price pursuant to the SCC for GCC Clause 12.1.

The security shall be returned to the Supplier immediately after its expiration.

13.3 Performance Security

13.3.1 The Supplier shall, within twenty-eight (28) days of the notification of Contract award, provide a security for the due performance of the Contract in the amount and currency **specified in the SCC.**

13.3.2 The security shall be a bank guarantee in the form provided in the Sample Contractual Forms Section of the bidding documents, or it shall be in another form acceptable to the Purchaser.

13.3.3 The security shall automatically become null and void once all the obligations of the Supplier under the Contract have been fulfilled, including, but not limited to, any obligations during the Warranty Period and any

extensions to the period. The security shall be returned to the Supplier no later than twenty-eight (28) days after its expiration.

13.3.4 Upon Operational Acceptance of the entire System, the security shall be reduced to the amount **specified in the SCC,** on the date of the Operational Acceptance, so that the reduced security would only cover the remaining warranty obligations of the Supplier.

14. Taxes and Duties

14.1 For Goods or Services supplied from outside the Purchaser's country, the Supplier shall be entirely responsible for all taxes, stamp duties, license fees, and other such levies imposed outside the Purchaser's country. Any duties, such as importation or customs duties, and taxes and other levies, payable in the Purchaser's country for the supply of Goods and Services from outside the Purchaser's country are the responsibility of the Purchaser unless these duties or taxes have been made part of the Contract Price in Article 2 of the Contract Agreement and the Price Schedule it refers to, in which case the duties and taxes will be the Supplier's responsibility.

14.2 For Goods or Services supplied locally, the Supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted Goods or Services to the Purchaser. The only exception are taxes or duties, such as value-added or sales tax or stamp duty as apply to, or are clearly identifiable, on the invoices and provided they apply in the Purchaser's country, and only if these taxes, levies and/or duties are also excluded from the Contract Price in Article 2 of the Contract Agreement and the Price Schedule it refers to.

14.3 If any tax exemptions, reductions, allowances, or privileges may be available to the Supplier in the Purchaser's Country, the Purchaser shall use its best efforts to enable the Supplier to benefit from any such tax savings to the maximum allowable extent.

14.4 For the purpose of the Contract, it is agreed that the Contract Price specified in Article 2 (Contract Price and Terms of Payment) of the Contract Agreement is based on the taxes, duties, levies, and charges prevailing at the date twenty-eight (28) days prior to the date of bid submission in the Purchaser's Country (also called "Tax" in this GCC Clause 14.4). If any Tax rates are increased or decreased, a new Tax is introduced, an existing Tax is abolished, or any change in interpretation or application of any Tax occurs in the course of the performance of the Contract, which was or will be assessed on the Supplier, its Subcontractors, or their employees in connection with performance of the Contract, an equitable adjustment to the Contract Price shall be made to fully take into account any such

change by addition to or reduction from the Contract Price, as the case may be.

D. INTELLECTUAL PROPERTY

15. Copyright

15.1 The Intellectual Property Rights in all Standard Software and Standard Materials shall remain vested in the owner of such rights.

15.2 The Purchaser agrees to restrict use, copying, or duplication of the Standard Software and Standard Materials in accordance with GCC Clause 16, except that additional copies of Standard Materials may be made by the Purchaser for use within the scope of the project of which the System is a part, in the event that the Supplier does not deliver copies within thirty (30) days from receipt of a request for such Standard Materials.

15.3 The Purchaser's contractual rights to use the Standard Software or elements of the Standard Software may not be assigned, licensed, or otherwise transferred voluntarily except in accordance with the relevant license agreement or **unless otherwise specified in the SCC** to a legally constituted successor organization (e.g., a reorganization of a public entity formally authorized by the government or through a merger or acquisition of a private entity)**.**

15.4 **Unless otherwise specified in the SCC,** the Intellectual Property Rights in all Custom Software and Custom Materials specified in Appendices 4 and 5 of the Contract Agreement (if any) shall, at the date of this Contract or on creation of the rights (if later than the date of this Contract), vest in the Purchaser. The Supplier shall do and execute or arrange for the doing and executing of each necessary act, document, and thing that the Purchaser may consider necessary or desirable to perfect the right, title, and interest of the Purchaser in and to those rights. In respect of such Custom Software and Custom Materials, the Supplier shall ensure that the holder of a moral right in such an item does not assert it, and the Supplier shall, if requested to do so by the Purchaser and where permitted by applicable law, ensure that the holder of such a moral right waives it.

15.5 **Unless otherwise specified in the SCC**, escrow arrangements shall NOT be required.

16. Software License Agreements

16.1 Except to the extent that the Intellectual Property Rights in the Software vest in the Purchaser, the Supplier hereby grants to the Purchaser license to access and use the Software, including all inventions, designs, and marks embodied in the Software.

Such license to access and use the Software shall:

(a) be:

(i) nonexclusive;

(ii) fully paid up and irrevocable (except that it shall terminate if the Contract terminates under GCC Clauses 41.1 or 41.3);

(iii) **unless otherwise specified in the SCC** valid throughout the territory of the Purchaser's Country;

(iv) **unless otherwise specified in the SCC** subject to NO additional restrictions.

(b) permit the Software to be:

(i) used or copied for use on or with the computer(s) for which it was acquired (if specified in the Technical Requirements and/or the Supplier's bid), plus a backup computer(s) of the same or similar capacity, if the primary is(are) inoperative, and during a reasonable transitional period when use is being transferred between primary and backup;

(ii) used or copied for use on or transferred to a replacement computer(s), (and use on the original and replacement computer(s) may be simultaneous during a reasonable transitional period) provided that, if the Technical Requirements and/or the Supplier's bid specifies a class of computer to which the license is restricted, the replacement computer(s) is(are) within that class;

(iii) if the nature of the System is such as to permit such access, accessed from other computers connected to the primary and/or backup computer(s) by means of a local or wide-area network or similar arrangement, and used on or copied for use on those other computers to the extent necessary to that access;

(iv) reproduced for safekeeping or backup purposes;

(v) customized, adapted, or combined with other computer software for use by the Purchaser, provided that derivative software incorporating any substantial part of the delivered, restricted Software shall be subject to same restrictions as are set forth in this Contract;

(vi) **unless otherwise specified in the SCC,** disclosed to, and reproduced for use by, support service suppliers and their subcontractors, (and the Purchaser may sublicense such persons to use and copy for use the

Software) to the extent reasonably necessary to the performance of their support service contracts, subject to the same restrictions as are set forth in this Contract; and

(vii) **unless otherwise specified in the SCC** disclosed to, and reproduced for use by, NO other parties.

16.2 The Supplier has the right to audit the Standard Software to verify compliance with the above license agreements. **Unless otherwise specified in the SCC**, the Purchaser will make available to the Supplier, within seven (7) days of a written request, accurate and up-to-date records of the number and location of copies, the number of authorized users, or any other relevant data required to demonstrate use of the Standard Software as per the license agreement. If and only if, expressly agreed in writing between the Purchaser and the Supplier, Purchaser will allow, under a pre-specified agreed procedure, the execution of embedded software functions under Supplier's control, and unencumbered transmission of resulting information on software usage.

17. Confidential Information

17.1 **Unless otherwise specified in the SCC,** the "Receiving Party" (either the Purchaser or the Supplier) shall keep confidential and shall not, without the written consent of the other party to this Contract ("the Disclosing Party"), divulge to any third party any documents, data, or other information of a confidential nature ("Confidential Information") connected with this Contract, and furnished directly or indirectly by the Disclosing Party prior to or during performance, or following termination, of this Contract.

17.2 For the purposes of GCC Clause 17.1, the Supplier is also deemed to be the Receiving Party of Confidential Information generated by the Supplier itself in the course of the performance of its obligations under the Contract and relating to the businesses, finances, suppliers, employees, or other contacts of the Purchaser or the Purchaser's use of the System.

17.3 Notwithstanding GCC Clauses 17.1 and 17.2:

(a) the Supplier may furnish to its Subcontractor Confidential Information of the Purchaser to the extent reasonably required for the Subcontractor to perform its work under the Contract; and

(b) the Purchaser may furnish Confidential Information of the Supplier: (i) to its support service suppliers and their subcontractors to the extent reasonably required for them to perform their work under their support service contracts; and (ii) to its affiliates and subsidiaries,

in which event the Receiving Party shall ensure that the person to whom it furnishes Confidential Information of the Disclosing Party is aware of and abides by the Receiving Party's obligations under this GCC Clause 17 as if that person were party to the Contract in place of the Receiving Party.

17.4 The Purchaser shall not, without the Supplier's prior written consent, use any Confidential Information received from the Supplier for any purpose other than the operation, maintenance and further development of the System. Similarly, the Supplier shall not, without the Purchaser's prior written consent, use any Confidential Information received from the Purchaser for any purpose other than those that are required for the performance of the Contract.

17.5 The obligation of a party under GCC Clauses 17.1 through 17.4 above, however, shall not apply to that information which:

(a) now or hereafter enters the public domain through no fault of the Receiving Party;

(b) can be proven to have been possessed by the Receiving Party at the time of disclosure and that was not previously obtained, directly or indirectly, from the Disclosing Party;

(c) otherwise lawfully becomes available to the Receiving Party from a third party that has no obligation of confidentiality.

17.6 The above provisions of this GCC Clause 17 shall not in any way modify any undertaking of confidentiality given by either of the parties to this Contract prior to the date of the Contract in respect of the System or any part thereof.

17.7 **Unless otherwise specified in the SCC**, the provisions of this GCC Clause 17 shall survive the termination, for whatever reason, of the Contract for three (3) years.

E. SUPPLY, INSTALLATION, TESTING, COMMISSIONING, AND ACCEPTANCE OF THE SYSTEM

18. Representatives 18.1 Project Manager

If the Project Manager is not named in the Contract, then within fourteen (14) days of the Effective Date, the Purchaser shall appoint and notify the Supplier in writing of the name of the Project Manager. The Purchaser may from time to time appoint some other person as the Project Manager in place of the person previously so appointed and shall give a notice of the name of such other person to the Supplier without delay. No such appointment shall be made at such a time or in such a manner as

to impede the progress of work on the System. Such appointment shall take effect only upon receipt of such notice by the Supplier. **Unless otherwise specified in the SCC** (if any), the Project Manager shall have the authority to represent the Purchaser on all day-to-day matters relating to the System or arising from the Contract, and shall normally be the person giving or receiving notices on behalf of the Purchaser pursuant to GCC Clause 4.

18.2 Supplier's Representative

18.2.1 If the Supplier's Representative is not named in the Contract, then within fourteen (14) days of the Effective Date, the Supplier shall appoint the Supplier's Representative and shall request the Purchaser in writing to approve the person so appointed. The request must be accompanied by a detailed curriculum vitae for the nominee, as well as a description of any other System or non-System responsibilities the nominee would retain while performing the duties of the Supplier's Representative. If the Purchaser does not object to the appointment within fourteen (14) days, the Supplier's Representative shall be deemed to have been approved. If the Purchaser objects to the appointment within fourteen (14) days giving the reason therefor, then the Supplier shall appoint a replacement within fourteen (14) days of such objection in accordance with this GCC Clause 18.2.1.

18.2.2 **Unless otherwise specified in the SCC** (if any), the Supplier's Representative shall have the authority to represent the Supplier on all day-to-day matters relating to the System or arising from the Contract, and shall normally be the person giving or receiving notices on behalf of the Supplier pursuant to GCC Clause 4.

18.2.3 The Supplier shall not revoke the appointment of the Supplier's Representative without the Purchaser's prior written consent, which shall not be unreasonably withheld. If the Purchaser consents to such an action, the Supplier shall appoint another person of equal or superior qualifications as the Supplier's Representative, pursuant to the procedure set out in GCC Clause 18.2.1.

18.2.4 The Supplier's Representative and staff are obliged to work closely with the Purchaser's Project Manager and staff, act within their own authority, and abide by directives issued by the Purchaser that are consistent with the terms of the Contract. The Supplier's Representative is responsible for managing the activities of its personnel

and any subcontracted personnel.

18.2.5 The Supplier's Representative may, subject to the approval of the Purchaser (which shall not be unreasonably withheld), at any time delegate to any person any of the powers, functions, and authorities vested in him or her. Any such delegation may be revoked at any time. Any such delegation or revocation shall be subject to a prior notice signed by the Supplier's Representative and shall specify the powers, functions, and authorities thereby delegated or revoked. No such delegation or revocation shall take effect unless and until the notice of it has been delivered.

18.2.6 Any act or exercise by any person of powers, functions and authorities so delegated to him or her in accordance with GCC Clause 18.2.5 shall be deemed to be an act or exercise by the Supplier's Representative.

18.3 Objections and Removals

18.3.1 The Purchaser may by notice to the Supplier object to any representative or person employed by the Supplier in the execution of the Contract who, in the reasonable opinion of the Purchaser, may have behaved inappropriately, be incompetent, or be negligent. The Purchaser shall provide evidence of the same, whereupon the Supplier shall remove such person from work on the System.

18.3.2 If any representative or person employed by the Supplier is removed in accordance with GCC Clause 18.3.1, the Supplier shall, where required, promptly appoint a replacement.

19. Project Plan

19.1 In close cooperation with the Purchaser and based on the Preliminary Project Plan included in the Supplier's bid, the Supplier shall develop a Project Plan encompassing the activities specified in the Contract. The contents of the Project Plan shall be as **specified in the SCC** and/or Technical Requirements.

19.2 **Unless otherwise specified in the SCC**, within thirty (30) days from the Effective Date of the Contract, the Supplier shall present a Project Plan to the Purchaser. The Purchaser shall, within fourteen (14) days of receipt of the Project Plan, notify the Supplier of any respects in which it considers that the Project Plan does not adequately ensure that the proposed program of work, proposed methods, and/or proposed Information Technologies will satisfy the Technical Requirements and/or the SCC (in this Clause 19.2 called "non-conformities" below). The Supplier shall, within five (5) days of receipt of such notification, correct the Project Plan and resubmit to the Purchaser. The Purchaser shall, within five (5) days of

resubmission of the Project Plan, notify the Supplier of any remaining non-conformities. This procedure shall be repeated as necessary until the Project Plan is free from non-conformities. When the Project Plan is free from non-conformities, the Purchaser shall provide confirmation in writing to the Supplier. This approved Project Plan ("the Agreed Project Plan") shall be contractually binding on the Purchaser and the Supplier.

19.3 If required, the impact on the Implementation Schedule of modifications agreed during finalization of the Agreed Project Plan shall be incorporated in the Contract by amendment, in accordance with GCC Clauses 39 and 40.

19.4 The Supplier shall undertake to supply, install, test, and commission the System in accordance with the Agreed Project Plan and the Contract.

19.5 **Unless otherwise specified in the SCC**, the Supplier shall submit to the Purchaser Monthly Progress Reports summarizing:

(i) results accomplished during the prior period;

(ii) cumulative deviations to date from schedule of progress milestones as specified in the Agreed Project Plan;

(iii) corrective actions to be taken to return to planned schedule of progress; proposed revisions to planned schedule;

(iv) other issues and outstanding problems; proposed actions to be taken;

(v) resources that the Supplier expects to be provided by the Purchaser and/or actions to be taken by the Purchaser in the next reporting period;

(vi) other issues or potential problems the Supplier foresees that could impact on project progress and/or effectiveness.

19.6 The Supplier shall submit to the Purchaser other (periodic) reports **as specified in the SCC**.

20. Subcontracting

20.1 Appendix 3 (List of Approved Subcontractors) to the Contract Agreement specifies critical items of supply or services and a list of Subcontractors for each item that are considered acceptable by the Purchaser. If no Subcontractors are listed for an item, the Supplier shall prepare a list of Subcontractors it considers qualified and wishes to be added to the list for such items. The Supplier may from time to time propose additions to or deletions from any such list. The Supplier shall submit any such list or any modification to the list to the Purchaser for its approval in sufficient time so as not to impede the progress of

work on the System. The Purchaser shall not withhold such approval unreasonably. Such approval by the Purchaser of a Subcontractor(s) shall not relieve the Supplier from any of its obligations, duties, or responsibilities under the Contract.

20.2 The Supplier may, at its discretion, select and employ Subcontractors for such critical items from those Subcontractors listed pursuant to GCC Clause 20.1. If the Supplier wishes to employ a Subcontractor not so listed, or subcontract an item not so listed, it must seek the Purchaser's prior approval under GCC Clause 20.3.

20.3 For items for which pre-approved Subcontractor lists have not been specified in Appendix 3 to the Contract Agreement, the Supplier may employ such Subcontractors as it may select, provided: (i) the Supplier notifies the Purchaser in writing at least twenty-eight (28) days prior to the proposed mobilization date for such Subcontractor; and (ii) by the end of this period either the Purchaser has granted its approval in writing or fails to respond. The Supplier shall not engage any Subcontractor to which the Purchaser has objected in writing prior to the end of the notice period. The absence of a written objection by the Purchaser during the above specified period shall constitute formal acceptance of the proposed Subcontractor. Except to the extent that it permits the deemed approval of the Purchaser of Subcontractors not listed in the Contract Agreement, nothing in this Clause, however, shall limit the rights and obligations of either the Purchaser or Supplier as they are specified in GCC Clauses 20.1 and 20.2, or in Appendix 3 of the Contract Agreement.

21. Design and Engineering

21.1 Technical Specifications and Drawings

21.1.1 The Supplier shall execute the basic and detailed design and the implementation activities necessary for successful installation of the System in compliance with the provisions of the Contract or, where not so specified, in accordance with good industry practice.

The Supplier shall be responsible for any discrepancies, errors or omissions in the specifications, drawings, and other technical documents that it has prepared, whether such specifications, drawings, and other documents have been approved by the Project Manager or not, provided that such discrepancies, errors, or omissions are not because of inaccurate information furnished in writing to the Supplier by or on behalf of the Purchaser.

21.1.2 The Supplier shall be entitled to disclaim responsibility for any design, data, drawing, specification, or other document, or any modification of such design, drawings,

specification, or other documents provided or designated by or on behalf of the Purchaser, by giving a notice of such disclaimer to the Project Manager.

21.2 Codes and Standards

Wherever references are made in the Contract to codes and standards in accordance with which the Contract shall be executed, the edition or the revised version of such codes and standards current at the date twenty-eight (28) days prior to date of bid submission shall apply. During Contract execution, any changes in such codes and standards shall be applied after approval by the Purchaser and shall be treated in accordance with GCC Clause 39.3.

21.3 Approval/Review of Controlling Technical Documents by the Project Manager

21.3.1 **Unless otherwise specified in the SCC**, there will NO Controlling Technical Documents required. However, **if the SCC specifies** Controlling Technical Documents, the Supplier shall prepare and furnish such documents for the Project Manager's approval or review.

Any part of the System covered by or related to the documents to be approved by the Project Manager shall be executed only after the Project Manager's approval of these documents.

GCC Clauses 21.3.2 through 21.3.7 shall apply to those documents requiring the Project Manager's approval, but not to those furnished to the Project Manager for its review only.

21.3.2 Within fourteen (14) days after receipt by the Project Manager of any document requiring the Project Manager's approval in accordance with GCC Clause 21.3.1, the Project Manager shall either return one copy of the document to the Supplier with its approval endorsed on the document or shall notify the Supplier in writing of its disapproval of the document and the reasons for disapproval and the modifications that the Project Manager proposes. If the Project Manager fails to take such action within the fourteen (14) days, then the document shall be deemed to have been approved by the Project Manager.

21.3.3 The Project Manager shall not disapprove any document except on the grounds that the document does not comply with some specified provision of the Contract or that it is contrary to good industry practice.

21.3.4 If the Project Manager disapproves the document, the Supplier shall modify the document and resubmit it for the Project Manager's approval in accordance with GCC Clause 21.3.2. If the Project Manager approves the document subject to modification(s), the Supplier shall make the required modification(s), and the document shall then be deemed to have been approved, subject to GCC Clause 21.3.5. The procedure set out in GCC Clauses 21.3.2 through 21.3.4 shall be repeated, as appropriate, until the Project Manager approves such documents.

21.3.5 If any dispute occurs between the Purchaser and the Supplier in connection with or arising out of the disapproval by the Project Manager of any document and/or any modification(s) to a document that cannot be settled between the parties within a reasonable period, then, in case the Contract Agreement includes and names an Adjudicator, such dispute may be referred to the Adjudicator for determination in accordance with GCC Clause 43.1 (Adjudication). If such dispute is referred to an Adjudicator, the Project Manager shall give instructions as to whether and if so, how, performance of the Contract is to proceed. The Supplier shall proceed with the Contract in accordance with the Project Manager's instructions, provided that if the Adjudicator upholds the Supplier's view on the dispute and if the Purchaser has not given notice under GCC Clause 43.1.2, then the Supplier shall be reimbursed by the Purchaser for any additional costs incurred by reason of such instructions and shall be relieved of such responsibility or liability in connection with the dispute and the execution of the instructions as the Adjudicator shall decide, and the Time for Achieving Operational Acceptance shall be extended accordingly.

21.3.6 The Project Manager's approval, with or without modification of the document furnished by the Supplier, shall not relieve the Supplier of any responsibility or liability imposed upon it by any provisions of the Contract except to the extent that any subsequent failure results from modifications required by the Project Manager or inaccurate information furnished in writing to the Supplier by or on behalf of the Purchaser.

21.3.7 The Supplier shall not depart from any approved document unless the Supplier has first submitted to the Project Manager an amended document and obtained the Project Manager's approval of the document, pursuant to the provisions of this GCC Clause 21.3. If the Project Manager requests any change in any already approved document and/or in any document based on such an

approved document, the provisions of GCC Clause 39 (Changes to the System) shall apply to such request.

22. Procurement, Delivery, and Transport

22.1 Subject to related Purchaser's responsibilities pursuant to GCC Clauses 10 and 14, the Supplier shall manufacture or procure and transport all the Information Technologies, Materials, and other Goods in an expeditious and orderly manner to the Project Site.

22.2 Delivery of the Information Technologies, Materials, and other Goods shall be made by the Supplier in accordance with the Technical Requirements.

22.3 Early or partial deliveries require the explicit written consent of the Purchaser, which consent shall not be unreasonably withheld.

22.4 Transportation

22.4.1 The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during shipment. The packing, marking, and documentation within and outside the packages shall comply strictly with the Purchaser's instructions to the Supplier.

22.4.2 The Supplier will bear responsibility for and cost of transport to the Project Sites in accordance with the terms and conditions used in the specification of prices in the Price Schedules, including the terms and conditions of the associated Incoterms.

22.4.3 **Unless otherwise specified in the SCC,** the Supplier shall be free to use transportation through carriers registered in any eligible country and to obtain insurance from any eligible source country.

22.5 **Unless otherwise specified in the SCC,** the Supplier will provide the Purchaser with shipping and other documents, as specified below:

22.5.1 For Goods supplied from outside the Purchaser's Country:

Upon shipment, the Supplier shall notify the Purchaser and the insurance company contracted by the Supplier to provide cargo insurance by cable, facsimile, electronic mail, or EDI with the full details of the shipment. The Supplier shall promptly send the following documents to the Purchaser by mail or courier, as appropriate, with a copy to the cargo insurance company:

(a) two copies of the Supplier's invoice showing the

description of the Goods, quantity, unit price, and total amount;

(b) usual transportation documents;

(c) insurance certificate;

(d) certificate(s) of origin; and

(e) estimated time and point of arrival in the Purchaser's Country and at the site.

22.5.2 For Goods supplied locally (i.e., from within the Purchaser's country):

Upon shipment, the Supplier shall notify the Purchaser by cable, facsimile, electronic mail, or EDI with the full details of the shipment. The Supplier shall promptly send the following documents to the Purchaser by mail or courier, as appropriate:

(a) two copies of the Supplier's invoice showing the Goods' description, quantity, unit price, and total amount;

(b) delivery note, railway receipt, or truck receipt;

(c) certificate of insurance;

(d) certificate(s) of origin; and

(e) estimated time of arrival at the site.

22.6 Customs Clearance

(a) The Purchaser will bear responsibility for, and cost of, customs clearance into the Purchaser's country in accordance the particular Incoterm(s) used for Goods supplied from outside the Purchaser's country in the Price Schedules referred to by Article 2 of the Contract Agreement.

(b) At the request of the Purchaser, the Supplier will make available a representative or agent during the process of customs clearance in the Purchaser's country for goods supplied from outside the Purchaser's country. In the event of delays in customs clearance that are not the fault of the Supplier:

(i) the Supplier shall be entitled to an extension in the Time for Achieving Operational Acceptance, pursuant to GCC Clause 40;

(ii) the Contract Price shall be adjusted to compensate

the Supplier for any additional storage charges that the Supplier may incur as a result of the delay.

23. Product Upgrades

23.1 At any point during performance of the Contract, should technological advances be introduced by the Supplier for Information Technologies originally offered by the Supplier in its bid and still to be delivered, the Supplier shall be obligated to offer to the Purchaser the latest versions of the available Information Technologies having equal or better performance or functionality at the same or lesser unit prices, pursuant to GCC Clause 39 (Changes to the System).

23.2 At any point during performance of the Contract, for Information Technologies still to be delivered, the Supplier will also pass on to the Purchaser any cost reductions and additional and/or improved support and facilities that it offers to other clients of the Supplier in the Purchaser's Country, pursuant to GCC Clause 39 (Changes to the System).

23.3 During performance of the Contract, the Supplier shall offer to the Purchaser all new versions, releases, and updates of Standard Software, as well as related documentation and technical support services, within thirty (30) days of their availability from the Supplier to other clients of the Supplier in the Purchaser's Country, and no later than twelve (12) months after they are released in the country of origin. In no case will the prices for these Software exceed those quoted by the Supplier in the Recurrent Costs tables in its bid.

23.4 **Unless otherwise specified in the SCC,** during the Warranty Period, the Supplier will provide at no additional cost to the Purchaser all new versions, releases, and updates for all Standard Software that are used in the System, within thirty (30) days of their availability from the Supplier to other clients of the Supplier in the Purchaser's country, and no later than twelve (12) months after they are released in the country of origin of the Software.

23.5 The Purchaser shall introduce all new versions, releases or updates of the Software within eighteen (18) months of receipt of a production-ready copy of the new version, release, or update, provided that the new version, release, or update does not adversely affect System operation or performance or require extensive reworking of the System. In cases where the new version, release, or update adversely affects System operation or performance, or requires extensive reworking of the System, the Supplier shall continue to support and maintain the version or release previously in operation for as long as necessary to allow introduction of the new version, release, or update. In no case shall the Supplier stop supporting or maintaining a version or release of the Software less than twenty four (24) months after

the Purchaser receives a production-ready copy of a subsequent version, release, or update. The Purchaser shall use all reasonable endeavors to implement any new version, release, or update as soon as practicable, subject to the twenty-four-month-long stop date.

24. Implementation, Installation, and Other Services

24.1 The Supplier shall provide all Services specified in the Contract and Agreed Project Plan in accordance with the highest standards of professional competence and integrity.

24.2 Prices charged by the Supplier for Services, if not included in the Contract, shall be agreed upon in advance by the parties (including, but not restricted to, any prices submitted by the Supplier in the Recurrent Cost Schedules of its Bid) and shall not exceed the prevailing rates charged by the Supplier to other purchasers in the Purchaser's Country for similar services.

25. Inspections and Tests

25.1 The Purchaser or its representative shall have the right to inspect and/or test any components of the System, as specified in the Technical Requirements, to confirm their good working order and/or conformity to the Contract at the point of delivery and/or at the Project Site.

25.2 The Purchaser or its representative shall be entitled to attend any such inspections and/or tests of the components, provided that the Purchaser shall bear all costs and expenses incurred in connection with such attendance, including but not limited to all inspection agent fees, travel, and related expenses.

25.3 Should the inspected or tested components fail to conform to the Contract, the Purchaser may reject the component(s), and the Supplier shall either replace the rejected component(s), or make alterations as necessary so that it meets the Contract requirements free of cost to the Purchaser.

25.4 The Project Manager may require the Supplier to carry out any inspection and/or test not specified in the Contract, provided that the Supplier's reasonable costs and expenses incurred in the carrying out of such inspection and/or test shall be added to the Contract Price. Further, if such inspection and/or test impedes the progress of work on the System and/or the Supplier's performance of its other obligations under the Contract, due allowance will be made in respect of the Time for Achieving Operational Acceptance and the other obligations so affected.

25.5 If any dispute shall arise between the parties in connection with or caused by an inspection and/or with regard to any component to be incorporated in the System that cannot be settled amicably between the parties within a reasonable period of time, either party may invoke the process pursuant to GCC Clause 43 (Settlement of Disputes), starting with referral of the matter to the Adjudicator in case an Adjudicator is included and named in

the Contract Agreement.

26. Installation of the System

26.1 As soon as the System, or any Subsystem, has, in the opinion of the Supplier, been delivered, Pre-commissioned, and made ready for Commissioning and Operational Acceptance Testing in accordance with the Technical Requirements, the SCC and the Agreed Project Plan, the Supplier shall so notify the Purchaser in writing.

26.2 The Project Manager shall, within fourteen (14) days after receipt of the Supplier's notice under GCC Clause 26.1, either issue an Installation Certificate in the form specified in the Sample Contractual Forms Section in the bidding documents, stating that the System, or major component or Subsystem (if Acceptance by major component or Subsystem is specified pursuant to the SCC for GCC Clause 27.2.1), has achieved Installation by the date of the Supplier's notice under GCC Clause 26.1, or notify the Supplier in writing of any defects and/or deficiencies, including, but not limited to, defects or deficiencies in the interoperability or integration of the various components and/or Subsystems making up the System. The Supplier shall use all reasonable endeavors to promptly remedy any defect and/or deficiencies that the Project Manager has notified the Supplier of. The Supplier shall then promptly carry out retesting of the System or Subsystem and, when in the Supplier's opinion the System or Subsystem is ready for Commissioning and Operational Acceptance Testing, notify the Purchaser in writing, in accordance with GCC Clause 26.1. The procedure set out in this GCC Clause 26.2 shall be repeated, as necessary, until an Installation Certificate is issued.

26.3 If the Project Manager fails to issue the Installation Certificate and fails to inform the Supplier of any defects and/or deficiencies within fourteen (14) days after receipt of the Supplier's notice under GCC Clause 26.1, or if the Purchaser puts the System or a Subsystem into production operation, then the System (or Subsystem) shall be deemed to have achieved successful Installation as of the date of the Supplier's notice or repeated notice, or when the Purchaser put the System into production operation, as the case may be.

27. Commissioning and Operational Acceptance

27.1 Commissioning

27.1.1 Commissioning of the System (or Subsystem if specified pursuant to the SCC for GCC Clause 27.2.1) shall be commenced by the Supplier:

(a) immediately after the Installation Certificate is issued by the Project Manager, pursuant to GCC Clause 26.2; or

(b) as otherwise specified in the Technical

Requirement or the Agreed Project Plan; or

(c) immediately after Installation is deemed to have occurred, under GCC Clause 26.3.

27.1.2 The Purchaser shall supply the operating and technical personnel and all materials and information reasonably required to enable the Supplier to carry out its obligations with respect to Commissioning.

Production use of the System or Subsystem(s) shall not commence prior to the start of formal Operational Acceptance Testing.

27.2 Operational Acceptance Tests

27.2.1 The Operational Acceptance Tests (and repeats of such tests) shall be the primary responsibility of the Purchaser (in accordance with GCC Clause 10.9), but shall be conducted with the full cooperation of the Supplier during Commissioning of the System (or major components or Subsystem[s]), to ascertain whether the System (or major component or Subsystem[s]) conforms to the Technical Requirements and meets the standard of performance quoted in the Supplier's bid, including, but not restricted to, the functional and technical performance requirements. **Unless otherwise specified in the SCC**, the Operational Acceptance Tests during Commissioning will be conducted as specified in the Technical Requirements and/or the Agreed Project Plan.

At the Purchaser's discretion, Operational Acceptance Tests may also be performed on replacement Goods, upgrades and new version releases, and Goods that are added or field-modified after Operational Acceptance of the System.

27.2.2 If for reasons attributable to the Purchaser, the Operational Acceptance Test of the System (or Subsystem[s] or major components, pursuant to the SCC for GCC Clause 27.2.1) cannot be successfully completed within ninety (90) days from the date of Installation or any other period agreed upon in writing by the Purchaser and the Supplier, the Supplier shall be deemed to have fulfilled its obligations with respect to the technical and functional aspects of the Technical Specifications, SCC and/or the Agreed Project Plan, and GCC Clause 28.2 and 28.3 shall not apply.

27.3 Operational Acceptance

27.3.1 Subject to GCC Clause 27.4 (Partial Acceptance) below,

Operational Acceptance shall occur in respect of the System, when

(a) the Operational Acceptance Tests, as specified in the Technical Requirements, and/or SCC and/or the Agreed Project Plan have been successfully completed; or

(b) the Operational Acceptance Tests have not been successfully completed or have not been carried out for reasons that are attributable to the Purchaser within the period from the date of Installation or any other agreed-upon period as specified in GCC Clause 27.2.2 above; or

(c) the Purchaser has put the System into production or use for sixty (60) consecutive days. If the System is put into production or use in this manner, the Supplier shall notify the Purchaser and document such use.

27.3.2 At any time after any of the events set out in GCC Clause 27.3.1 have occurred, the Supplier may give a notice to the Project Manager requesting the issue of an Operational Acceptance Certificate.

27.3.3 After consultation with the Purchaser, and within fourteen (14) days after receipt of the Supplier's notice, the Project Manager shall:

(a) issue an Operational Acceptance Certificate; or

(b) notify the Supplier in writing of any defect or deficiencies or other reason for the failure of the Operational Acceptance Tests; or

(c) issue the Operational Acceptance Certificate, if the situation covered by GCC Clause 27.3.1 (b) arises.

27.3.4 The Supplier shall use all reasonable endeavors to promptly remedy any defect and/or deficiencies and/or other reasons for the failure of the Operational Acceptance Test that the Project Manager has notified the Supplier of. Once such remedies have been made by the Supplier, the Supplier shall notify the Purchaser, and the Purchaser, with the full cooperation of the Supplier, shall use all reasonable endeavors to promptly carry out retesting of the System or Subsystem. Upon the successful conclusion of the Operational Acceptance Tests, the Supplier shall notify the Purchaser of its request for Operational Acceptance Certification, in accordance with GCC Clause 27.3.3. The Purchaser shall then issue

to the Supplier the Operational Acceptance Certification in accordance with GCC Clause 27.3.3 (a), or shall notify the Supplier of further defects, deficiencies, or other reasons for the failure of the Operational Acceptance Test. The procedure set out in this GCC Clause 27.3.4 shall be repeated, as necessary, until an Operational Acceptance Certificate is issued.

27.3.5 If the System or Subsystem fails to pass the Operational Acceptance Test(s) in accordance with GCC Clause 27.2, then either:

(a) the Purchaser may consider terminating the Contract, pursuant to GCC Clause 41.2.2;

or

(b) if the failure to achieve Operational Acceptance within the specified time period is a result of the failure of the Purchaser to fulfill its obligations under the Contract, then the Supplier shall be deemed to have fulfilled its obligations with respect to the relevant technical and functional aspects of the Contract, and GCC Clauses 30.3 and 30.4 shall not apply.

27.3.6 If within fourteen (14) days after receipt of the Supplier's notice the Project Manager fails to issue the Operational Acceptance Certificate or fails to inform the Supplier in writing of the justifiable reasons why the Project Manager has not issued the Operational Acceptance Certificate, the System or Subsystem shall be deemed to have been accepted as of the date of the Supplier's said notice.

27.4 Partial Acceptance

27.4.1 If so specified in the SCC for GCC Clause 27.2.1, Installation and Commissioning shall be carried out individually for each identified major component or Subsystem(s) of the System. In this event, the provisions in the Contract relating to Installation and Commissioning, including the Operational Acceptance Test, shall apply to each such major component or Subsystem individually, and Operational Acceptance Certificate(s) shall be issued accordingly for each such major component or Subsystem of the System, subject to the limitations contained in GCC Clause 27.4.2.

27.4.2 The issuance of Operational Acceptance Certificates for individual major components or Subsystems pursuant to GCC Clause 27.4.1 shall not relieve the Supplier of its obligation to obtain an Operational Acceptance Certificate

for the System as an integrated whole (if so specified in the SCC for GCC Clauses 12.1 and 27.2.1) once all major components and Subsystems have been supplied, installed, tested, and commissioned.

27.4.3 In the case of minor components for the System that by their nature do not require Commissioning or an Operational Acceptance Test (e.g., minor fittings, furnishings or site works, etc.), the Project Manager shall issue an Operational Acceptance Certificate within fourteen (14) days after the fittings and/or furnishings have been delivered and/or installed or the site works have been completed. The Supplier shall, however, use all reasonable endeavors to promptly remedy any defects or deficiencies in such minor components detected by the Purchaser or Supplier.

F. GUARANTEES AND LIABILITIES

28. Operational Acceptance Time Guarantee

28.1 The Supplier guarantees that it shall complete the supply, Installation, Commissioning, and achieve Operational Acceptance of the System (or Subsystems, pursuant to the SCC for GCC Clause 27.2.1) within the time periods specified in the Implementation Schedule and/or the Agreed Project Plan pursuant to GCC Clause 8.2, or within such extended time to which the Supplier shall be entitled under GCC Clause 40 (Extension of Time for Achieving Operational Acceptance).

28.2 **Unless otherwise specified in the SCC**, if the Supplier fails to supply, install, commission, and achieve Operational Acceptance of the System (or Subsystems pursuant to the SCC for GCC Clause 27.2.1) within the time for achieving Operational Acceptance specified in the Implementation Schedule or the Agreed Project Plan, or any extension of the time for achieving Operational Acceptance previously granted under GCC Clause 40 (Extension of Time for Achieving Operational Acceptance), the Supplier shall pay to the Purchaser liquidated damages at the rate of one half of one percent per week as a percentage of the Contract Price (exclusive of Recurrent Costs if any), or the relevant part of the Contract Price if a Subsystem has not achieved Operational Acceptance. The aggregate amount of such liquidated damages shall in no event exceed the amount of ten (10) percent of the Contract Price (exclusive of Recurrent Costs if any). Once the Maximum is reached, the Purchaser may consider termination of the Contract, pursuant to GCC Clause 41.2.2.

28.3 **Unless otherwise specified in the SCC,** liquidated damages payable under GCC Clause 28.2 shall apply only to the failure to achieve Operational Acceptance of the System (and Subsystems) as specified in the Implementation Schedule and/or

Agreed Project Plan. This Clause 28.3 shall not limit, however, any other rights or remedies the Purchaser may have under the Contract for other delays.

28.4 If liquidated damages are claimed by the Purchaser for the System (or Subsystem), the Supplier shall have no further liability whatsoever to the Purchaser in respect to the Operational Acceptance time guarantee for the System (or Subsystem). However, the payment of liquidated damages shall not in any way relieve the Supplier from any of its obligations to complete the System or from any other of its obligations and liabilities under the Contract.

29. Defect Liability

29.1 The Supplier warrants that the System, including all Information Technologies, Materials, and other Goods supplied and Services provided, shall be free from defects in the design, engineering, Materials, and workmanship that prevent the System and/or any of its components from fulfilling the Technical Requirements or that limit in a material fashion the performance, reliability, or extensibility of the System and/or Subsystems. **Unless otherwise specified in the SCC**, there will be NO exceptions and/or limitations to this warranty with respect to Software (or categories of Software). Commercial warranty provisions of products supplied under the Contract shall apply to the extent that they do not conflict with the provisions of this Contract.

29.2 The Supplier also warrants that the Information Technologies, Materials, and other Goods supplied under the Contract are new, unused, and incorporate all recent improvements in design that materially affect the System's or Subsystem's ability to fulfill the Technical Requirements.

29.3 **Unless otherwise specified in the SCC,** the Supplier warrants that: (i) all Goods components to be incorporated into the System form part of the Supplier's and/or Subcontractor's current product lines, and (ii) they have been previously released to the market.

29.4 **Unless otherwise specified in the SCC**, the Warranty Period shall commence from the date of Operational Acceptance of the System (or of any major component or Subsystem for which separate Operational Acceptance is provided for in the Contract) and shall extend for thirty-six (36) months.

29.5 If during the Warranty Period any defect as described in GCC Clause 29.1 should be found in the design, engineering, Materials, and workmanship of the Information Technologies and other Goods supplied or of the Services provided by the Supplier, the Supplier shall promptly, in consultation and agreement with the Purchaser regarding appropriate remedying of the defects, and at its sole cost, repair, replace, or otherwise

make good (as the Supplier shall, at its discretion, determine) such defect as well as any damage to the System caused by such defect. Any defective Information Technologies or other Goods that have been replaced by the Supplier shall remain the property of the Supplier.

29.6 The Supplier shall not be responsible for the repair, replacement, or making good of any defect, or of any damage to the System arising out of or resulting from any of the following causes:

(a) improper operation or maintenance of the System by the Purchaser;

(b) normal wear and tear;

(c) use of the System with items not supplied by the Supplier, unless otherwise identified in the Technical Requirements, or approved by the Supplier; or

(d) modifications made to the System by the Purchaser, or a third party, not approved by the Supplier.

29.7 The Supplier's obligations under this GCC Clause 29 shall not apply to:

(a) any materials that are normally consumed in operation or have a normal life shorter than the Warranty Period; or

(b) any designs, specifications, or other data designed, supplied, or specified by or on behalf of the Purchaser or any matters for which the Supplier has disclaimed responsibility, in accordance with GCC Clause 21.1.2.

29.8 The Purchaser shall give the Supplier a notice promptly following the discovery of such defect, stating the nature of any such defect together with all available evidence. The Purchaser shall afford all reasonable opportunity for the Supplier to inspect any such defect. The Purchaser shall afford the Supplier all necessary access to the System and the site to enable the Supplier to perform its obligations under this GCC Clause 29.

29.9 The Supplier may, with the consent of the Purchaser, remove from the site any Information Technologies and other Goods that are defective, if the nature of the defect, and/or any damage to the System caused by the defect, is such that repairs cannot be expeditiously carried out at the site. If the repair, replacement, or making good is of such a character that it may affect the efficiency of the System, the Purchaser may give the Supplier notice requiring that tests of the defective part be made by the Supplier immediately upon completion of such remedial work, whereupon the Supplier shall carry out such tests.

If such part fails the tests, the Supplier shall carry out further

repair, replacement, or making good (as the case may be) until that part of the System passes such tests. The tests shall be agreed upon by the Purchaser and the Supplier.

29.10 **Unless otherwise specified in the SCC**, the response times and repair/replacement times for Warranty Defect Repair are specified in the Technical Requirements. Nevertheless, if the Supplier fails to commence the work necessary to remedy such defect or any damage to the System caused by such defect within two weeks the Purchaser may, following notice to the Supplier, proceed to do such work or contract a third party (or parties) to do such work, and the reasonable costs incurred by the Purchaser in connection with such work shall be paid to the Purchaser by the Supplier or may be deducted by the Purchaser from any monies due the Supplier or claimed under the Performance Security.

29.11 If the System or Subsystem cannot be used by reason of such defect and/or making good of such defect, the Warranty Period for the System shall be extended by a period equal to the period during which the System or Subsystem could not be used by the Purchaser because of such defect and/or making good of such defect.

29.12 Items substituted for defective parts of the System during the Warranty Period shall be covered by the Defect Liability Warranty for the remainder of the Warranty Period applicable for the part replaced or three (3) months, whichever is greater. For reasons of information security, the Purchaser may choose to retain physical possession of any replaced defective information storage devices.

29.13 At the request of the Purchaser and without prejudice to any other rights and remedies that the Purchaser may have against the Supplier under the Contract, the Supplier will offer all possible assistance to the Purchaser to seek warranty services or remedial action from any subcontracted third-party producers or licensor of Goods included in the System, including without limitation assignment or transfer in favor of the Purchaser of the benefit of any warranties given by such producers or licensors to the Supplier.

30. Functional Guarantees

30.1 The Supplier guarantees that, once the Operational Acceptance Certificate(s) has been issued, the System represents a complete, integrated solution to the Purchaser's requirements set forth in the Technical Requirements and it conforms to all other aspects of the Contract. The Supplier acknowledges that GCC Clause 27 regarding Commissioning and Operational Acceptance governs how technical conformance of the System to the Contract requirements will be determined.

30.2 If, for reasons attributable to the Supplier, the System does not conform to the Technical Requirements or does not conform to all other aspects of the Contract, the Supplier shall at its cost and expense make such changes, modifications, and/or additions to the System as may be necessary to conform to the Technical Requirements and meet all functional and performance standards. The Supplier shall notify the Purchaser upon completion of the necessary changes, modifications, and/or additions and shall request the Purchaser to repeat the Operational Acceptance Tests until the System achieves Operational Acceptance.

30.3 If the System (or Subsystem[s]) fails to achieve Operational Acceptance, the Purchaser may consider termination of the Contract, pursuant to GCC Clause 41.2.2, and forfeiture of the Supplier's Performance Security in accordance with GCC Clause 13.3 in compensation for the extra costs and delays likely to result from this failure.

31. Intellectual Property Rights Warranty

31.1 The Supplier hereby represents and warrants that:

(a) the System as supplied, installed, tested, and accepted;

(b) use of the System in accordance with the Contract; and

(c) copying of the Software and Materials provided to the Purchaser in accordance with the Contract

do not and will not infringe any Intellectual Property Rights held by any third party and that it has all necessary rights or at its sole expense shall have secured in writing all transfers of rights and other consents necessary to make the assignments, licenses, and other transfers of Intellectual Property Rights and the warranties set forth in the Contract, and for the Purchaser to own or exercise all Intellectual Property Rights as provided in the Contract. Without limitation, the Supplier shall secure all necessary written agreements, consents, and transfers of rights from its employees and other persons or entities whose services are used for development of the System.

32. Intellectual Property Rights Indemnity

32.1 The Supplier shall indemnify and hold harmless the Purchaser and its employees and officers from and against any and all losses, liabilities, and costs (including losses, liabilities, and costs incurred in defending a claim alleging such a liability), that the Purchaser or its employees or officers may suffer as a result of any infringement or alleged infringement of any Intellectual Property Rights by reason of:

(a) installation of the System by the Supplier or the use of the System, including the Materials, in the country where the site is located;

(b) copying of the Software and Materials provided the Supplier in accordance with the Agreement; and

(c) sale of the products produced by the System in any country, except to the extent that such losses, liabilities, and costs arise as a result of the Purchaser's breach of GCC Clause 32.2.

32.2 Such indemnity shall not cover any use of the System, including the Materials, other than for the purpose indicated by or to be reasonably inferred from the Contract, any infringement resulting from the use of the System, or any products of the System produced thereby in association or combination with any other goods or services not supplied by the Supplier, where the infringement arises because of such association or combination and not because of use of the System in its own right.

32.3 Such indemnities shall also not apply if any claim of infringement:

(a) is asserted by a parent, subsidiary, or affiliate of the Purchaser's organization;

(b) is a direct result of a design mandated by the Purchaser's Technical Requirements and the possibility of such infringement was duly noted in the Supplier's Bid; or

(c) results from the alteration of the System, including the Materials, by the Purchaser or any persons other than the Supplier or a person authorized by the Supplier.

32.4 If any proceedings are brought or any claim is made against the Purchaser arising out of the matters referred to in GCC Clause 32.1, the Purchaser shall promptly give the Supplier notice of such proceedings or claims, and the Supplier may at its own expense and in the Purchaser's, name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim.

If the Supplier fails to notify the Purchaser within twenty-eight (28) days after receipt of such notice that it intends to conduct any such proceedings or claim, then the Purchaser shall be free to conduct the same on its own behalf. Unless the Supplier has so failed to notify the Purchaser within the twenty-eight (28) days, the Purchaser shall make no admission that may be prejudicial to the defense of any such proceedings or claim. The Purchaser shall, at the Supplier's request, afford all available assistance to the Supplier in conducting such proceedings or claim and shall be reimbursed by the Supplier for all reasonable expenses incurred in so doing.

32.5 The Purchaser shall indemnify and hold harmless the Supplier and its employees, officers, and Subcontractors from and against any and all losses, liabilities, and costs (including losses, liabilities, and costs incurred in defending a claim alleging such a liability) that the Supplier or its employees, officers, or Subcontractors may suffer as a result of any infringement or alleged infringement of any Intellectual Property Rights arising out of or in connection with any design, data, drawing, specification, or other documents or materials provided to the Supplier in connection with this Contract by the Purchaser or any persons (other than the Supplier) contracted by the Purchaser, except to the extent that such losses, liabilities, and costs arise as a result of the Supplier's breach of GCC Clause 32.8.

32.6 Such indemnity shall not cover

(a) any use of the design, data, drawing, specification, or other documents or materials, other than for the purpose indicated by or to be reasonably inferred from the Contract;

(b) any infringement resulting from the use of the design, data, drawing, specification, or other documents or materials, or any products produced thereby, in association or combination with any other Goods or Services not provided by the Purchaser or any other person contracted by the Purchaser, where the infringement arises because of such association or combination and not because of the use of the design, data, drawing, specification, or other documents or materials in its own right.

32.7 Such indemnities shall also not apply:

(a) if any claim of infringement is asserted by a parent, subsidiary, or affiliate of the Supplier's organization;

(b) to the extent that any claim of infringement is caused by the alteration, by the Supplier, or any persons contracted by the Supplier, of the design, data, drawing, specification, or other documents or materials provided to the Supplier by the Purchaser or any persons contracted by the Purchaser.

32.8 If any proceedings are brought or any claim is made against the Supplier arising out of the matters referred to in GCC Clause 32.5, the Supplier shall promptly give the Purchaser notice of such proceedings or claims, and the Purchaser may at its own expense and in the Supplier's, name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim. If the Purchaser fails to notify the Supplier within twenty-eight (28) days after receipt of such

notice that it intends to conduct any such proceedings or claim, then the Supplier shall be free to conduct the same on its own behalf. Unless the Purchaser has so failed to notify the Supplier within the twenty-eight (28) days, the Supplier shall make no admission that may be prejudicial to the defense of any such proceedings or claim. The Supplier shall, at the Purchaser's request, afford all available assistance to the Purchaser in conducting such proceedings or claim and shall be reimbursed by the Purchaser for all reasonable expenses incurred in so doing.

33. Limitation of Liability

33.1 Provided the following does not exclude or limit any liabilities of either party in ways not permitted by applicable law:

(a) the Supplier shall not be liable to the Purchaser, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the Supplier to pay liquidated damages to the Purchaser; and

(b) the aggregate liability of the Supplier to the Purchaser, whether under the Contract, in tort or otherwise, shall not exceed the total Contract Price, provided that this limitation shall not apply to any obligation of the Supplier to indemnify the Purchaser with respect to intellectual property rights infringement.

G. RISK DISTRIBUTION

34. Transfer of Ownership

34.1 With the exception of Software and Materials, the ownership of the Information Technologies and other Goods shall be transferred to the Purchaser at the time of Delivery or otherwise under terms that may be agreed upon and specified in the Contract Agreement.

34.2 Ownership and the terms of usage of the Software and Materials supplied under the Contract shall be governed by GCC Clause 15 (Copyright) and any elaboration in the Technical Requirements.

34.3 Ownership of the Supplier's Equipment used by the Supplier and its Subcontractors in connection with the Contract shall remain with the Supplier or its Subcontractors.

35. Care of the System

35.1 The Purchaser shall become responsible for the care and custody of the System or Subsystems upon their Delivery. The Purchaser shall make good at its own cost any loss or damage that may occur to the System or Subsystems from any cause from the date of Delivery until the date of Operational

Acceptance of the System or Subsystems, pursuant to GCC Clause 27 (Commissioning and Operational Acceptance), excepting such loss or damage arising from acts or omissions of the Supplier, its employees, or subcontractors.

35.2 If any loss or damage occurs to the System or any part of the System by reason of:

(a) (insofar as they relate to the country where the Project Site is located) nuclear reaction, nuclear radiation, radioactive contamination, a pressure wave caused by aircraft or other aerial objects, or any other occurrences that an experienced contractor could not reasonably foresee, or if reasonably foreseeable could not reasonably make provision for or insure against, insofar as such risks are not normally insurable on the insurance market and are mentioned in the general exclusions of the policy of insurance taken out under GCC Clause 37;

(b) any use not in accordance with the Contract, by the Purchaser or any third party;

(c) any use of or reliance upon any design, data, or specification provided or designated by or on behalf of the Purchaser, or any such matter for which the Supplier has disclaimed responsibility in accordance with GCC Clause 21.1.2,

the Purchaser shall pay to the Supplier all sums payable in respect of the System or Subsystems that have achieved Operational Acceptance, notwithstanding that the same be lost, destroyed, or damaged. If the Purchaser requests the Supplier in writing to make good any loss or damage to the System thereby occasioned, the Supplier shall make good the same at the cost of the Purchaser in accordance with GCC Clause 39. If the Purchaser does not request the Supplier in writing to make good any loss or damage to the System thereby occasioned, the Purchaser shall either request a change in accordance with GCC Clause 39, excluding the performance of that part of the System thereby lost, destroyed, or damaged, or, where the loss or damage affects a substantial part of the System, the Purchaser shall terminate the Contract pursuant to GCC Clause 41.1.

35.3 The Purchaser shall be liable for any loss of or damage to any Supplier’s Equipment which the Purchaser has authorized to locate within the Purchaser's premises for use in fulfillment of Supplier's obligations under the Contract, except where such loss or damage arises from acts or omissions of the Supplier, its employees, or subcontractors.

36. Loss of or Damage to Property; Accident or Injury to Workers; Indemnification

36.1 The Supplier and each and every Subcontractor shall abide by the job safety, insurance, customs, and immigration measures prevalent and laws in force in the Purchaser's Country.

36.2 Subject to GCC Clause 36.3, the Supplier shall indemnify and hold harmless the Purchaser and its employees and officers from and against any and all losses, liabilities and costs (including losses, liabilities, and costs incurred in defending a claim alleging such a liability) that the Purchaser or its employees or officers may suffer as a result of the death or injury of any person or loss of or damage to any property (other than the System, whether accepted or not) arising in connection with the supply, installation, testing, and Commissioning of the System and by reason of the negligence of the Supplier or its Subcontractors, or their employees, officers or agents, except any injury, death, or property damage caused by the negligence of the Purchaser, its contractors, employees, officers, or agents.

36.3 If any proceedings are brought or any claim is made against the Purchaser that might subject the Supplier to liability under GCC Clause 36.2, the Purchaser shall promptly give the Supplier notice of such proceedings or claims, and the Supplier may at its own expense and in the Purchaser's, name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim. If the Supplier fails to notify the Purchaser within twenty-eight (28) days after receipt of such notice that it intends to conduct any such proceedings or claim, then the Purchaser shall be free to conduct the same on its own behalf. Unless the Supplier has so failed to notify the Purchaser within the twenty-eight (28) day period, the Purchaser shall make no admission that may be prejudicial to the defense of any such proceedings or claim. The Purchaser shall, at the Supplier's request, afford all available assistance to the Supplier in conducting such proceedings or claim and shall be reimbursed by the Supplier for all reasonable expenses incurred in so doing.

36.4 The Purchaser shall indemnify and hold harmless the Supplier and its employees, officers, and Subcontractors from any and all losses, liabilities, and costs (including losses, liabilities, and costs incurred in defending a claim alleging such a liability) that the Supplier or its employees, officers, or Subcontractors may suffer as a result of the death or personal injury of any person or loss of or damage to property of the Purchaser, other than the System not yet achieving Operational Acceptance, that is caused by fire, explosion, or any other perils, in excess of the amount recoverable from insurances procured under GCC Clause 37 (Insurances), provided that such fire, explosion, or other perils were not caused by any act or failure of the Supplier.

36.5 If any proceedings are brought or any claim is made against the Supplier that might subject the Purchaser to liability under GCC

Clause 36.4, the Supplier shall promptly give the Purchaser notice of such proceedings or claims, and the Purchaser may at its own expense and in the Supplier's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim. If the Purchaser fails to notify the Supplier within twenty-eight (28) days after receipt of such notice that it intends to conduct any such proceedings or claim, then the Supplier shall be free to conduct the same on its own behalf. Unless the Purchaser has so failed to notify the Supplier within the twenty-eight (28) days, the Supplier shall make no admission that may be prejudicial to the defense of any such proceedings or claim. The Supplier shall, at the Purchaser's request, afford all available assistance to the Purchaser in conducting such proceedings or claim and shall be reimbursed by the Purchaser for all reasonable expenses incurred in so doing.

36.6 The party entitled to the benefit of an indemnity under this GCC Clause 36 shall take all reasonable measures to mitigate any loss or damage that has occurred. If the party fails to take such measures, the other party's liabilities shall be correspondingly reduced.

37. Insurances

37.1 The Supplier shall at its expense take out and maintain in effect, or cause to be taken out and maintained in effect, during the performance of the Contract, the insurance set forth below. The identity of the insurers and the form of the policies shall be subject to the approval of the Purchaser, who should not unreasonably withhold such approval.

(a) Cargo Insurance During Transport

as applicable, 110 percent of the price of the Information Technologies and other Goods in a freely convertible currency, covering the Goods from physical loss or damage during shipment through receipt at the Project Site.

(b) Installation "All Risks" Insurance

as applicable, 110 percent of the price of the Information Technologies and other Goods covering the Goods at the site from all risks of physical loss or damage (excluding only perils commonly excluded under "all risks" insurance policies of this type by reputable insurers) occurring prior to Operational Acceptance of the System.

(c) Third-Party Liability Insurance

On terms as **specified in the SCC,** covering bodily injury or death suffered by third parties (including the Purchaser's personnel) and loss of or damage to property

(including the Purchaser's property and any Subsystems that have been accepted by the Purchaser) occurring in connection with the supply and installation of the Information System.

(d) Automobile Liability Insurance

In accordance with the statutory requirements prevailing in the Purchaser's Country, covering use of all vehicles used by the Supplier or its Subcontractors (whether or not owned by them) in connection with the execution of the Contract.

(e) Other Insurance (if any), as **specified in the SCC.**

37.2 The Purchaser shall be named as co-insured under all insurance policies taken out by the Supplier pursuant to GCC Clause 37.1, except for the Third-Party Liability, and the Supplier's Subcontractors shall be named as co-insured under all insurance policies taken out by the Supplier pursuant to GCC Clause 37.1 except for Cargo Insurance During Transport. All insurer's rights of subrogation against such co-insured for losses or claims arising out of the performance of the Contract shall be waived under such policies.

37.3 The Supplier shall deliver to the Purchaser certificates of insurance (or copies of the insurance policies) as evidence that the required policies are in full force and effect.

37.4 The Supplier shall ensure that, where applicable, its Subcontractor(s) shall take out and maintain in effect adequate insurance policies for their personnel and vehicles and for work executed by them under the Contract, unless such Subcontractors are covered by the policies taken out by the Supplier.

37.5 If the Supplier fails to take out and/or maintain in effect the insurance referred to in GCC Clause 37.1, the Purchaser may take out and maintain in effect any such insurance and may from time to time deduct from any amount due the Supplier under the Contract any premium that the Purchaser shall have paid to the insurer or may otherwise recover such amount as a debt due from the Supplier.

37.6 Unless otherwise provided in the Contract, the Supplier shall prepare and conduct all and any claims made under the policies affected by it pursuant to this GCC Clause 37, and all monies payable by any insurers shall be paid to the Supplier. The Purchaser shall give to the Supplier all such reasonable assistance as may be required by the Supplier in connection with any claim under the relevant insurance policies. With respect to insurance claims in which the Purchaser's interest is involved,

the Supplier shall not give any release or make any compromise with the insurer without the prior written consent of the Purchaser. With respect to insurance claims in which the Supplier's interest is involved, the Purchaser shall not give any release or make any compromise with the insurer without the prior written consent of the Supplier.

37.7 Appropriation of Insurance Proceeds

Should any loss or damage occur, the Supplier shall:

a) initiate and pursue claim till settlement; and

b) promptly make arrangements for repair and/or replacement of the damaged or lost item/s and ensure supply/commissioning in terms of the contract, irrespective of settlement of claim by the insurance company.

Keeping in view the above the purchaser shall give, from time to time, written authorization to the insurance company to directly pay monies payable by the insurer to the supplier after excluding any payment including advances already paid by the purchaser in respect of those items, Such excluded payments will be payable to the Purchaser only and insurer will accordingly make the payment as advised by the purchaser from time to time. All subsequent payments, if any, due under the Contract, shall be regulated by the relevant terms of payment."

38. Force Majeure

38.1 "Force Majeure" shall mean any event beyond the reasonable control of the Purchaser or of the Supplier, as the case may be, and which is unavoidable notwithstanding the reasonable care of the party affected and shall include, without limitation, the following:

(a) war, hostilities, or warlike operations (whether a state of war be declared or not), invasion, act of foreign enemy, and civil war;

(b) rebellion, revolution, insurrection, mutiny, usurpation of civil or military government, conspiracy, riot, civil commotion, and terrorist acts;

(c) confiscation, nationalization, mobilization, commandeering or requisition by or under the order of any government or de jure or de facto authority or ruler, or any other act or failure to act of any local state or national government authority;

(d) strike, sabotage, lockout, embargo, import restriction, port congestion, lack of usual means of public transportation and communication, industrial dispute, shipwreck, shortage or restriction of power supply, epidemics,

quarantine, and plague;

(e) earthquake, landslide, volcanic activity, fire, flood or inundation, tidal wave, typhoon or cyclone, hurricane, storm, lightning, or other inclement weather condition, nuclear and pressure waves, or other natural or physical disaster;

(f) failure, by the Supplier, to obtain the necessary export permit(s) from the governments of the Country(s) of Origin of the Information Technologies or other Goods, or Supplier's Equipment provided that the Supplier has made all reasonable efforts to obtain the required export permit(s), including the exercise of due diligence in determining the eligibility of the System and all of its components for receipt of the necessary export permits.

38.2 If either party is prevented, hindered, or delayed from or in performing any of its obligations under the Contract by an event of Force Majeure, then it shall notify the other in writing of the occurrence of such event and the circumstances of the event of Force Majeure within fourteen (14) days after the occurrence of such event.

38.3 The party who has given such notice shall be excused from the performance or punctual performance of its obligations under the Contract for so long as the relevant event of Force Majeure continues and to the extent that such party's performance is prevented, hindered, or delayed. The Time for Achieving Operational Acceptance shall be extended in accordance with GCC Clause 40 (Extension of Time for Achieving Operational Acceptance).

38.4 The party or parties affected by the event of Force Majeure shall use reasonable efforts to mitigate the effect of the event of Force Majeure upon its or their performance of the Contract and to fulfill its or their obligations under the Contract, but without prejudice to either party's right to terminate the Contract under GCC Clause 38.6.

38.5 No delay or nonperformance by either party to this Contract caused by the occurrence of any event of Force Majeure shall:

(a) constitute a default or breach of the Contract;

(b) (subject to GCC Clauses 35.2, 38.3, and 38.4) give rise to any claim for damages or additional cost or expense occasioned by the delay or nonperformance,

if, and to the extent that, such delay or nonperformance is caused by the occurrence of an event of Force Majeure.

38.6 If the performance of the Contract is substantially prevented,

hindered, or delayed for a single period of more than sixty (60) days or an aggregate period of more than one hundred and twenty (120) days on account of one or more events of Force Majeure during the time period covered by the Contract, the parties will attempt to develop a mutually satisfactory solution, failing which, either party may terminate the Contract by giving a notice to the other.

38.7 In the event of termination pursuant to GCC Clause 38.6, the rights and obligations of the Purchaser and the Supplier shall be as specified in GCC Clauses 41.1.2 and 41.1.3.

38.8 Notwithstanding GCC Clause 38.5, Force Majeure shall not apply to any obligation of the Purchaser to make payments to the Supplier under this Contract.

H. CHANGE IN CONTRACT ELEMENTS

39. Changes to the System

39.1 Introducing a Change

39.1.1 Subject to GCC Clauses 39.2.5 and 39.2.7, the Purchaser shall have the right to propose, and subsequently require, the Project Manager to order the Supplier from time to time during the performance of the Contract to make any change, modification, addition, or deletion to, in, or from the System (interchangeably called "Change"), provided that such Change falls within the general scope of the System, does not constitute unrelated work, and is technically practicable, taking into account both the state of advancement of the System and the technical compatibility of the Change envisaged with the nature of the System as originally specified in the Contract.

A Change may involve, but is not restricted to, the substitution of updated Information Technologies and related Services in accordance with GCC Clause 23 (Product Upgrades).

39.1.2 The Supplier may from time to time during its performance of the Contract propose to the Purchaser (with a copy to the Project Manager) any Change that the Supplier considers necessary or desirable to improve the quality or efficiency of the System. The Purchaser may at its discretion approve or reject any Change proposed by the Supplier.

39.1.3 Notwithstanding GCC Clauses 39.1.1 and 39.1.2, no change made necessary because of any default of the Supplier in the performance of its obligations under

the Contract shall be deemed to be a Change, and such change shall not result in any adjustment of the Contract Price or the Time for Achieving Operational Acceptance.

39.1.4 The procedure on how to proceed with and execute Changes is specified in GCC Clauses 39.2 and 39.3, and further details and sample forms are provided in the Sample Contractual Forms Section in the bidding documents.

39.1.5 Moreover, the Purchaser and Supplier will agree, during development of the Project Plan, to a date prior to the scheduled date for Operational Acceptance, after which the Technical Requirements for the System shall be "frozen." Any Change initiated after this time will be dealt with after Operational Acceptance.

39.2 Changes Originating from Purchaser

39.2.1 If the Purchaser proposes a Change pursuant to GCC Clauses 39.1.1, it shall send to the Supplier a "Request for Change Proposal," requiring the Supplier to prepare and furnish to the Project Manager as soon as reasonably practicable a "Change Proposal," which shall include the following:

(a) brief description of the Change;

(b) impact on the Time for Achieving Operational Acceptance;

(c) detailed estimated cost of the Change;

(d) effect on Functional Guarantees (if any);

(e) effect on any other provisions of the Contract.

39.2.2 Prior to preparing and submitting the "Change Proposal," the Supplier shall submit to the Project Manager a "Change Estimate Proposal," which shall be an estimate of the cost of preparing the Change Proposal, plus a first approximation of the suggested approach and cost for implementing the changes. Upon receipt of the Supplier's Change Estimate Proposal, the Purchaser shall do one of the following:

(a) accept the Supplier's estimate with instructions to the Supplier to proceed with the preparation of the Change Proposal;

(b) advise the Supplier of any part of its Change

Estimate Proposal that is unacceptable and request the Supplier to review its estimate;

(c) advise the Supplier that the Purchaser does not intend to proceed with the Change.

39.2.3 Upon receipt of the Purchaser's instruction to proceed under GCC Clause 39.2.2 (a), the Supplier shall, with proper expedition, proceed with the preparation of the Change Proposal, in accordance with GCC Clause 39.2.1. The Supplier, at its discretion, may specify a validity period for the Change Proposal, after which if the Purchaser and Supplier has not reached agreement in accordance with GCC Clause 39.2.6, then GCC Clause 39.2.7 shall apply.

39.2.4 The pricing of any Change shall, as far as practicable, be calculated in accordance with the rates and prices included in the Contract. If the nature of the Change is such that the Contract rates and prices are inequitable, the parties to the Contract shall agree on other specific rates to be used for valuing the Change.

39.2.5 If before or during the preparation of the Change Proposal it becomes apparent that the aggregate impact of compliance with the Request for Change Proposal and with all other Change Orders that have already become binding upon the Supplier under this GCC Clause 39 would be to increase or decrease the Contract Price as originally set forth in Article 2 (Contract Price) of the Contract Agreement by more than fifteen (15) percent, the Supplier may give a written notice of objection to this Request for Change Proposal prior to furnishing the Change Proposal. If the Purchaser accepts the Supplier's objection, the Purchaser shall withdraw the proposed Change and shall notify the Supplier in writing of its acceptance.

The Supplier's failure to so object to a Request for Change Proposal shall neither affect its right to object to any subsequent requested Changes or Change Orders, nor affect its right to take into account, when making such subsequent objection, the percentage increase or decrease in the Contract Price that any Change not objected to by the Supplier represents.

39.2.6 Upon receipt of the Change Proposal, the Purchaser and the Supplier shall mutually agree upon all matters contained in the Change Proposal. Within fourteen (14) days after such agreement, the Purchaser shall, if it intends to proceed with the Change, issue the

Supplier a Change Order. If the Purchaser is unable to reach a decision within fourteen (14) days, it shall notify the Supplier with details of when the Supplier can expect a decision. If the Purchaser decides not to proceed with the Change for whatever reason, it shall, within the said period of fourteen (14) days, notify the Supplier accordingly. Under such circumstances, the Supplier shall be entitled to reimbursement of all costs reasonably incurred by it in the preparation of the Change Proposal, provided that these do not exceed the amount given by the Supplier in its Change Estimate Proposal submitted in accordance with GCC Clause 39.2.2.

39.2.7 If the Purchaser and the Supplier cannot reach agreement on the price for the Change, an equitable adjustment to the Time for Achieving Operational Acceptance, or any other matters identified in the Change Proposal, the Change will not be implemented. However, this provision does not limit the rights of either party under GCC Clause 43 (Settlement of Disputes).

39.3 Changes Originating from Supplier

If the Supplier proposes a Change pursuant to GCC Clause 39.1.2, the Supplier shall submit to the Project Manager a written "Application for Change Proposal," giving reasons for the proposed Change and including the information specified in GCC Clause 39.2.1. Upon receipt of the Application for Change Proposal, the parties shall follow the procedures outlined in GCC Clauses 39.2.6 and 39.2.7. However, should the Purchaser choose not to proceed or the Purchaser and the Supplier cannot come to agreement on the change during any validity period that the Supplier may specify in its Application for Change Proposal, the Supplier shall not be entitled to recover the costs of preparing the Application for Change Proposal, unless subject to an agreement between the Purchaser and the Supplier to the contrary.

39.4 Value engineering. The Supplier may prepare, at its own cost, a value engineering proposal at any time during the performance of the Contract. The value engineering proposal shall, at a minimum, include the following;

(a) the proposed change(s), and a description of the difference to the existing Contract requirements;

(b) a full cost/benefit analysis of the proposed change(s) including a description and estimate of costs (including

life cycle costs) the Purchaser may incur in implementing the value engineering proposal; and

(c) a description of any effect(s) of the change on performance/functionality.

The Purchaser may accept the value engineering proposal if the proposal demonstrates benefits that:

(a) accelerates the delivery period; or

(b) reduces the Contract Price or the life cycle costs to the Purchaser; or

(c) improves the quality, efficiency, safety or sustainability of the systems; or

(d) yields any other benefits to the Purchaser,

without compromising the necessary functions of the systems.

If the value engineering proposal is approved by the Purchaser and results in:

(a) a reduction of the Contract Price; the amount to be paid to the Supplier shall be the percentage specified in the SCC of the reduction in the Contract Price; or
(b) an increase in the Contract Price; but results in a reduction in life cycle costs due to any benefit described in (a) to (d) above, the amount to be paid to the Supplier shall be the full increase in the Contract Price.

40. Extension of Time for Achieving Operational Acceptance

40.1 The time(s) for achieving Operational Acceptance specified in the Schedule of Implementation shall be extended if the Supplier is delayed or impeded in the performance of any of its obligations under the Contract by reason of any of the following:

(a) any Change in the System as provided in GCC Clause 39 (Change in the Information System);

(b) any occurrence of Force Majeure as provided in GCC Clause 38 (Force Majeure);

(c) default of the Purchaser; or

(d) any other matter specifically mentioned in the Contract;

by such period as shall be fair and reasonable in all the

circumstances and as shall fairly reflect the delay or impediment sustained by the Supplier.

40.2 Except where otherwise specifically provided in the Contract, the Supplier shall submit to the Project Manager a notice of a claim for an extension of the time for achieving Operational Acceptance, together with particulars of the event or circumstance justifying such extension as soon as reasonably practicable after the commencement of such event or circumstance. As soon as reasonably practicable after receipt of such notice and supporting particulars of the claim, the Purchaser and the Supplier shall agree upon the period of such extension. In the event that the Supplier does not accept the Purchaser's estimate of a fair and reasonable time extension, the Supplier shall be entitled to refer the matter to the provisions for the Settlement of Disputes pursuant to GCC Clause 43.

40.3 The Supplier shall at all times use its reasonable efforts to minimize any delay in the performance of its obligations under the Contract.

41. Termination

41.1 Termination for Purchaser's Convenience

41.1.1 The Purchaser may at any time terminate the Contract for any reason by giving the Supplier a notice of termination that refers to this GCC Clause 41.1.

41.1.2 Upon receipt of the notice of termination under GCC Clause 41.1.1, the Supplier shall either as soon as reasonably practical or upon the date specified in the notice of termination

(a) cease all further work, except for such work as the Purchaser may specify in the notice of termination for the sole purpose of protecting that part of the System already executed, or any work required to leave the site in a clean and safe condition;

(b) terminate all subcontracts, except those to be assigned to the Purchaser pursuant to GCC Clause 41.1.2 (d) (ii) below;

(c) remove all Supplier's Equipment from the site, repatriate the Supplier's and its Subcontractors' personnel from the site, remove from the site any wreckage, rubbish, and debris of any kind;

(d) in addition, the Supplier, subject to the payment specified in GCC Clause 41.1.3, shall

(i) deliver to the Purchaser the parts of the System executed by the Supplier up to the

date of termination;

(ii) to the extent legally possible, assign to the Purchaser all right, title, and benefit of the Supplier to the System, or Subsystem, as at the date of termination, and, as may be required by the Purchaser, in any subcontracts concluded between the Supplier and its Subcontractors;

(iii) deliver to the Purchaser all nonproprietary drawings, specifications, and other documents prepared by the Supplier or its Subcontractors as of the date of termination in connection with the System.

41.1.3 In the event of termination of the Contract under GCC Clause 41.1.1, the Purchaser shall pay to the Supplier the following amounts:

(a) the Contract Price, properly attributable to the parts of the System executed by the Supplier as of the date of termination;

(b) the costs reasonably incurred by the Supplier in the removal of the Supplier's Equipment from the site and in the repatriation of the Supplier's and its Subcontractors' personnel;

(c) any amount to be paid by the Supplier to its Subcontractors in connection with the termination of any subcontracts, including any cancellation charges;

(d) costs incurred by the Supplier in protecting the System and leaving the site in a clean and safe condition pursuant to GCC Clause 41.1.2 (a); and

(e) the cost of satisfying all other obligations, commitments, and claims that the Supplier may in good faith have undertaken with third parties in connection with the Contract and that are not covered by GCC Clauses 41.1.3 (a) through (d) above.

41.2 Termination for Supplier's Default

41.2.1 The Purchaser, without prejudice to any other rights or remedies it may possess, may terminate the Contract forthwith in the following circumstances by giving a notice of termination and its reasons therefore to the Supplier, referring to this GCC

Clause 41.2:

(a) if the Supplier becomes bankrupt or insolvent, has a receiving order issued against it, compounds with its creditors, or, if the Supplier is a corporation, a resolution is passed or order is made for its winding up (other than a voluntary liquidation for the purposes of amalgamation or reconstruction), a receiver is appointed over any part of its undertaking or assets, or if the Supplier takes or suffers any other analogous action in consequence of debt;

(b) if the Supplier assigns or transfers the Contract or any right or interest therein in violation of the provision of GCC Clause 42 (Assignment); or

(c) if the Supplier, in the judgment of the Purchaser has engaged in Fraud and Corruption, as defined in paragraph 2.2 a. of the Appendix to the GCC, in competing for or in executing the Contract, including but not limited to willful misrepresentation of facts concerning ownership of Intellectual Property Rights in, or proper authorization and/or licenses from the owner to offer, the hardware, software, or materials provided under this Contract.

41.2.2 If the Supplier:

(a) has abandoned or repudiated the Contract;

(b) has without valid reason failed to commence work on the System promptly;

(c) persistently fails to execute the Contract in accordance with the Contract or persistently neglects to carry out its obligations under the Contract without just cause;

(d) refuses or is unable to provide sufficient Materials, Services, or labor to execute and complete the System in the manner specified in the Agreed Project Plan furnished under GCC Clause 19 at rates of progress that give reasonable assurance to the Purchaser that the Supplier can attain Operational Acceptance of the System by the Time for Achieving Operational Acceptance as extended;

then the Purchaser may, without prejudice to any other rights it may possess under the Contract, give a notice

to the Supplier stating the nature of the default and requiring the Supplier to remedy the same. If the Supplier fails to remedy or to take steps to remedy the same within fourteen (14) days of its receipt of such notice, then the Purchaser may terminate the Contract forthwith by giving a notice of termination to the Supplier that refers to this GCC Clause 41.2.

41.2.3 Upon receipt of the notice of termination under GCC Clauses 41.2.1 or 41.2.2, the Supplier shall, either immediately or upon such date as is specified in the notice of termination:

(a) cease all further work, except for such work as the Purchaser may specify in the notice of termination for the sole purpose of protecting that part of the System already executed or any work required to leave the site in a clean and safe condition;

(b) terminate all subcontracts, except those to be assigned to the Purchaser pursuant to GCC Clause 41.2.3 (d) below;

(c) deliver to the Purchaser the parts of the System executed by the Supplier up to the date of termination;

(d) to the extent legally possible, assign to the Purchaser all right, title and benefit of the Supplier to the System or Subsystems as at the date of termination, and, as may be required by the Purchaser, in any subcontracts concluded between the Supplier and its Subcontractors;

(e) deliver to the Purchaser all drawings, specifications, and other documents prepared by the Supplier or its Subcontractors as at the date of termination in connection with the System.

41.2.4 The Purchaser may enter upon the site, expel the Supplier, and complete the System itself or by employing any third party. Upon completion of the System or at such earlier date as the Purchaser thinks appropriate, the Purchaser shall give notice to the Supplier that such Supplier's Equipment will be returned to the Supplier at or near the site and shall return such Supplier's Equipment to the Supplier in accordance with such notice. The Supplier shall thereafter without delay and at its cost remove or arrange removal of the same from the site.

41.2.5 Subject to GCC Clause 41.2.6, the Supplier shall be

entitled to be paid the Contract Price attributable to the portion of the System executed as at the date of termination and the costs, if any, incurred in protecting the System and in leaving the site in a clean and safe condition pursuant to GCC Clause 41.2.3 (a). Any sums due the Purchaser from the Supplier accruing prior to the date of termination shall be deducted from the amount to be paid to the Supplier under this Contract.

41.2.6 If the Purchaser completes the System, the cost of completing the System by the Purchaser shall be determined. If the sum that the Supplier is entitled to be paid, pursuant to GCC Clause 41.2.5, plus the reasonable costs incurred by the Purchaser in completing the System, exceeds the Contract Price, the Supplier shall be liable for such excess. If such excess is greater than the sums due the Supplier under GCC Clause 41.2.5, the Supplier shall pay the balance to the Purchaser, and if such excess is less than the sums due the Supplier under GCC Clause 41.2.5, the Purchaser shall pay the balance to the Supplier. The Purchaser and the Supplier shall agree, in writing, on the computation described above and the manner in which any sums shall be paid.

41.3 Termination by Supplier

41.3.1 If:

(a) the Purchaser has failed to pay the Supplier any sum due under the Contract within the specified period, has failed to approve any invoice or supporting documents without just cause **pursuant to the SCC,** or commits a substantial breach of the Contract, the Supplier may give a notice to the Purchaser that requires payment of such sum, with interest on this sum as stipulated in GCC Clause 12.3, requires approval of such invoice or supporting documents, or specifies the breach and requires the Purchaser to remedy the same, as the case may be. If the Purchaser fails to pay such sum together with such interest, fails to approve such invoice or supporting documents or give its reasons for withholding such approval, fails to remedy the breach or take steps to remedy the breach within fourteen (14) days after receipt of the Supplier's notice; or

(b) the Supplier is unable to carry out any of its obligations under the Contract for any reason

attributable to the Purchaser, including but not limited to the Purchaser's failure to provide possession of or access to the site or other areas or failure to obtain any governmental permit necessary for the execution and/or completion of the System;

then the Supplier may give a notice to the Purchaser of such events, and if the Purchaser has failed to pay the outstanding sum, to approve the invoice or supporting documents, to give its reasons for withholding such approval, or to remedy the breach within twenty-eight (28) days of such notice, or if the Supplier is still unable to carry out any of its obligations under the Contract for any reason attributable to the Purchaser within twenty-eight (28) days of the said notice, the Supplier may by a further notice to the Purchaser referring to this GCC Clause 41.3.1, forthwith terminate the Contract.

41.3.2 The Supplier may terminate the Contract immediately by giving a notice to the Purchaser to that effect, referring to this GCC Clause 41.3.2, if the Purchaser becomes bankrupt or insolvent, has a receiving order issued against it, compounds with its creditors, or, being a corporation, if a resolution is passed or order is made for its winding up (other than a voluntary liquidation for the purposes of amalgamation or reconstruction), a receiver is appointed over any part of its undertaking or assets, or if the Purchaser takes or suffers any other analogous action in consequence of debt.

41.3.3 If the Contract is terminated under GCC Clauses 41.3.1 or 41.3.2, then the Supplier shall immediately:

(a) cease all further work, except for such work as may be necessary for the purpose of protecting that part of the System already executed, or any work required to leave the site in a clean and safe condition;

(b) terminate all subcontracts, except those to be assigned to the Purchaser pursuant to Clause 41.3.3 (d) (ii);

(c) remove all Supplier's Equipment from the site and repatriate the Supplier's and its Subcontractor's personnel from the site.

(d) In addition, the Supplier, subject to the payment

specified in GCC Clause 41.3.4, shall:

(i) deliver to the Purchaser the parts of the System executed by the Supplier up to the date of termination;

(ii) to the extent legally possible, assign to the Purchaser all right, title, and benefit of the Supplier to the System, or Subsystems, as of the date of termination, and, as may be required by the Purchaser, in any subcontracts concluded between the Supplier and its Subcontractors;

(iii) to the extent legally possible, deliver to the Purchaser all drawings, specifications, and other documents prepared by the Supplier or its Subcontractors as of the date of termination in connection with the System.

41.3.4 If the Contract is terminated under GCC Clauses 41.3.1 or 41.3.2, the Purchaser shall pay to the Supplier all payments specified in GCC Clause 41.1.3 and reasonable compensation for all loss, except for loss of profit, or damage sustained by the Supplier arising out of, in connection with, or in consequence of such termination.

41.3.5 Termination by the Supplier pursuant to this GCC Clause 41.3 is without prejudice to any other rights or remedies of the Supplier that may be exercised in lieu of or in addition to rights conferred by GCC Clause 41.3.

41.4 In this GCC Clause 41, the expression "portion of the System executed" shall include all work executed, Services provided, and all Information Technologies, or other Goods acquired (or subject to a legally binding obligation to purchase) by the Supplier and used or intended to be used for the purpose of the System, up to and including the date of termination.

41.5 In this GCC Clause 41, in calculating any monies due from the Purchaser to the Supplier, account shall be taken of any sum previously paid by the Purchaser to the Supplier under the Contract, including any advance payment paid **pursuant to the SCC.**

42. Assignment

42.l Neither the Purchaser nor the Supplier shall, without the express prior written consent of the other, assign to any third party the Contract or any part thereof, or any right, benefit, obligation, or interest therein or thereunder, except that the Supplier shall be entitled to assign either absolutely or by way of charge any monies due and payable to it or that may become due and payable to it under the Contract.

I. SETTLEMENT OF DISPUTES

43. Settlement of Disputes

43.1 Adjudication

43.1.1 If any dispute of any kind whatsoever shall arise between the Purchaser and the Supplier in connection with or arising out of the Contract, including without prejudice to the generality of the foregoing, any question regarding its existence, validity, or termination, or the operation of the System (whether during the progress of implementation or after its achieving Operational Acceptance and whether before or after the termination, abandonment, or breach of the Contract), the parties shall seek to resolve any such dispute by mutual consultation. If the parties fail to resolve such a dispute by mutual consultation within fourteen (14) days after one party has notified the other in writing of the dispute, then, if the Contract Agreement in Appendix 2 includes and names an Adjudicator, the dispute shall, within another fourteen (14) days, be referred in writing by either party to the Adjudicator, with a copy to the other party. If there is no Adjudicator specified in the Contract Agreement, the mutual consultation period stated above shall last twenty-eight (28) days (instead of fourteen), upon expiry of which either party may move to the notification of arbitration pursuant to GCC Clause 43.2.1.

43.1.2 The Adjudicator shall give his or her decision in writing to both parties within twenty-eight (28) days of the dispute being referred to the Adjudicator. If the Adjudicator has done so, and no notice of intention to commence arbitration has been given by either the Purchaser or the Supplier within fifty-six (56) days of such reference, the decision shall become final and binding upon the Purchaser and the Supplier. Any decision that has become final and binding shall be implemented by the parties forthwith.

43.1.3 The Adjudicator shall be paid an hourly fee at the rate specified in the Contract Agreement plus reasonable

expenditures incurred in the execution of duties as Adjudicator, and these costs shall be divided equally between the Purchaser and the Supplier.

43.1.4 Should the Adjudicator resign or die, or should the Purchaser and the Supplier agree that the Adjudicator is not fulfilling his or her functions in accordance with the provisions of the Contract, a new Adjudicator shall be jointly appointed by the Purchaser and the Supplier. Failing agreement between the two within twenty-eight (28) days, the new Adjudicator shall be appointed at the request of either party by the Appointing Authority **specified in the SCC,** or, if no Appointing Authority is **specified in SCC,** the Contract shall, from this point onward and until the parties may otherwise agree on an Adjudicator or an Appointing Authority, be implemented as if there is no Adjudicator.

43.2 Arbitration

43.2.1 If

(a) the Purchaser or the Supplier is dissatisfied with the Adjudicator's decision and acts before this decision has become final and binding pursuant to GCC Clause 43.1.2, or

(b) the Adjudicator fails to give a decision within the allotted time from referral of the dispute pursuant to GCC Clause 43.1.2, and the Purchaser or the Supplier acts within the following fourteen (14) days, or

(c) in the absence of an Adjudicator from the Contract Agreement, the mutual consultation pursuant to GCC Clause 43.1.1 expires without resolution of the dispute and the Purchaser or the Supplier acts within the following fourteen (14) days,

then either the Purchaser or the Supplier may act to give notice to the other party, with a copy for information to the Adjudicator in case an Adjudicator had been involved, of its intention to commence arbitration, as provided below, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given.

43.2.2 Any dispute in respect of which a notice of intention to commence arbitration has been given, in accordance with GCC Clause 43.2.1, shall be finally settled by arbitration. Arbitration may be commenced prior to or

after Installation of the Information System.

43.2.3 Arbitration proceedings shall be conducted in accordance with the rules of procedure **specified in the SCC.**

43.3 Notwithstanding any reference to the Adjudicator or arbitration in this clause,

(a) the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree;

(b) the Purchaser shall pay the Supplier any monies due the Supplier.

44. Trust Receipt for Information System

44.1 Where the Purchaser hands over his information system, subsystem, material, documents for any application program integration to the Supplier for executing the Contract, then the Supplier shall, at the time of taking delivery of the information system, subsystem, material, and documents, furnish trust Receipt for Information Systems and associated goods and also execute an Indemnity Bond in favour of the Purchaser in the form acceptable to the Purchaser for keeping such information system, subsystem, material, and documents in safe custody and to utilize the same exclusively for the purpose of the said Contract. The proforma for the Trust Receipt and Indemnity Bond are enclosed under Section X: Contract Forms.

J. SERVICE LEVEL AGREEMENT

45. Purpose

45.1 The Service Level Agreement (SLA) shall clearly define the levels of service provided by the Supplier to the Purchaser for the implementation and management support phase of the Contract i.e., for a period of 66 months. The SLA reflects the measurements to be used to track and report the Information System performance on a regular basis. The service level targets shown in the following section shall be for the entire duration of the Contract. The benefits of this are:

a. Define a process that applies to both the Purchaser and the Supplier on some aspect of performance, only when such aspect falls below the threshold defined by the Purchaser.

b. Help the Purchaser monitor and manage the levels and performance of the Information System services.

46. General Principles of SLA

46.1 SLA shall become part of the Contract between the Purchaser and the Supplier. SLA defines the terms of the Supplier's responsibility in ensuring the timely delivery of the services and the correctness of the same based on the SLA parameter

as detailed in this Clause.

46.2 The Supplier has to comply with SLA to ensure adherence to Implementation Schedule, quality and availability of services, throughout the duration of the Contract.

46.3 The Supplier has to supply SLA measurement tools such as Customer Relationship Management (CRM) tool which may be required to monitor and submit reports on all the SLA mentioned in this Clause.

46.4 For purposes of the SLA, the definitions and terms as specified in the SLA categories shall have the meanings set forth below:

"Total Time" – Total number of hours in the month / quarter (or the concerned period) being considered for evaluation of SLA performance.

"Uptime" – Time period for which the specified services / outcomes are available in the period being considered for evaluation of SLA.

"Downtime" – Time period during which the specified services / outcomes are not available in the period being considered for evaluation of SLA, which would exclude downtime owing to Force Majeure and reasons beyond the control of the Supplier.

"Incident" – Any event / abnormalities in the services being rendered, that may lead to disruption in normal operations and services to the end user.

"Response Time" – Time elapsed from the moment an incident is reported over e-mail / phone or by any applicable mode of communication, to the time when a resource is assigned for the resolution of the same.

"Resolution Time" – Time elapsed from the moment an incident is reported to technical person or automatically through the system, to the time by which the incident is resolved completely and services as promised are restored.

47. SLA Categories

47.1 The SLA has been segregated in categories **as specified in SCC**. The Supplier is required to meet the SLAs as per the defined delivery in order to get the complete payment on time and avoid any penalty deduction.

47.2 The penalty against the defined SLA Categories will be levied **as specified in SCC**.

47.3 The SLAs shall be used to evaluate the performance of the services on a monthly basis or over a period mutually agreed between the parties as the period of evaluation of performance.

47.4 Penalty levied for non-performance as per the SLA requirements shall be deducted through subsequent payments due from the Purchaser or through the Performance Bank Guarantee.

47.5 The SLA parameters defined for each of the SLA categories shall be measured through appropriate SLA measurement tools as mentioned in the sub clause 46.3. All such SLA measurement tools shall be provided by the Supplier. The Purchaser shall audit SLA measurement tools for accuracy and reliability.

47.6 The aggregate limit of penalty shall not exceed the amount of ten (10) percent of the total Contract Price allocated under the PAL solution implementation and management support phase. In case the cumulative penalty exceeds ten (10) percent of the total Contract Price allocated under the PAL solution implementation and management support phase, the Purchaser reserves the right to invoke the termination clause.

48. SLA Reporting Procedures

48.1 The Supplier shall prepare and submit service level performance reports in a mutually agreed format within 7 working days of beginning of the subsequent month. The reports shall include actual versus target service level performance, a variance analysis and discussion of appropriate issues or significant events. The service level performance shall be considered as part of the deliverables mentioned in the Implementation Schedule.

APPENDIX

Fraud and Corruption

(Text in this Appendix shall not be modified)

1. Purpose

1.1 The Bank's Anti-Corruption Guidelines and this annex apply with respect to procurement under Bank Investment Project Financing operations.

2. Requirements

2.1 The Bank requires that Borrowers (including beneficiaries of Bank financing); bidders (applicants/proposers), consultants, contractors and suppliers; any sub-contractors, sub-consultants, service providers or suppliers; any agents (whether declared or not); and any of their personnel, observe the highest standard of ethics during the procurement process, selection and contract execution of Bank-financed contracts, and refrain from Fraud and Corruption.

2.2 To this end, the Bank:

a. Defines, for the purposes of this provision, the terms set forth below as follows:

i. "corrupt practice" is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;

ii. "fraudulent practice" is any act or omission, including misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain financial or other benefit or to avoid an obligation;

iii. "collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;

iv. "coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;

v. "obstructive practice" is:

(a) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive, or collusive practice; and/or threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or

(b) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under paragraph 2.2 e. below.

b. Rejects a proposal for award if the Bank determines that the firm or individual recommended for award, any of its personnel, or its agents, or its sub-consultants,

sub-contractors, service providers, suppliers and/ or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;

c. In addition to the legal remedies set out in the relevant Legal Agreement, may take other appropriate actions, including declaring misprocurement, if the Bank determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement process, selection and/or execution of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;

d. Pursuant to the Bank's Anti-Corruption Guidelines, and in accordance with the Bank's prevailing sanctions policies and procedures, may sanction a firm or individual, either indefinitely or for a stated period of time, including by publicly declaring such firm or individual ineligible (i) to be awarded or otherwise benefit from a Bank-financed contract, financially or in any other manner;[1] (ii) to be a nominated[2] sub-contractor, consultant, manufacturer or supplier, or service provider of an otherwise eligible firm being awarded a Bank-financed contract; and (iii) to receive the proceeds of any loan made by the Bank or otherwise to participate further in the preparation or implementation of any Bank-financed project;

e. Requires that a clause be included in bidding/request for proposals documents and in contracts financed by a Bank loan, requiring (i) bidders (applicants/proposers), consultants, contractors, and suppliers, and their sub-contractors, sub-consultants, service providers, suppliers, agents personnel, permit the Bank to inspect[3] all accounts, records and other documents relating to the procurement process, selection and/or contract execution, and to have them audited by auditors appointed by the Bank.

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1 For the avoidance of doubt, a sanctioned party's ineligibility to be awarded a contract shall include, without limitation, (i) applying for pre-qualification, expressing interest in a consultancy, and bidding, either directly or as a nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider, in respect of such contract, and (ii) entering into an addendum or amendment introducing a material modification to any existing contract.

2 A nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider (different names are used depending on the particular bidding document) is one which has been: (i) included by the bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower.

3 Inspections in this context usually are investigative (i.e., forensic) in nature. They involve fact-finding activities undertaken by the Bank or persons appointed by the Bank to address specific matters related to investigations/audits, such as evaluating the veracity of an allegation of possible Fraud and Corruption, through the appropriate mechanisms. Such activity includes but is not limited to: accessing and examining a firm's or individual's financial records and information, and making copies thereof as relevant; accessing and examining any other documents, data and information (whether in hard copy or electronic format) deemed relevant for the investigation/audit, and making copies thereof as relevant; interviewing staff and other relevant individuals; performing physical inspections and site visits; and obtaining third party verification of information.

SECTION IX - SPECIAL CONDITIONS OF CONTRACT

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Special Conditions of Contract

The following Special Conditions of Contract (SCC) shall supplement or amend the General Conditions of Contract (GCC). Whenever there is a conflict, the provisions of the SCC shall prevail over those in the General Conditions of Contract. For the purposes of clarity, any referenced GCC clause numbers are indicated in the left column of the SCC.

A. CONTRACT AND INTERPRETATION

1. Definitions (GCC Clause 1)

GCC 1.1 (a) (ix)	The applicable edition of the Procurement Regulation is dated: Procurement Regulations for IPF Borrowers – Procurement in Investment Project Financing Goods, Works, Non-Consulting and Consulting Services, July 2016, Revised November 2017 and August 2018 ("Procurement Regulations").
GCC 1.1 (b) (i)	The Purchaser is: **Director (Projects), HPRIDCL**.
GCC 1.1 (b) (ii)	The Project Manager is: Pawan Kumar Sharma, Director (Projects) HPRIDCL.
GCC 1.1 (e) (i)	The Purchaser's Country is: India.
GCC 1.1 (e) (iii)	The Project Site(s) is/are: Road Safety Enforcement Control Centre (RSECC) in Shimla with field camera systems at different locations in Shimla, Kangra and Mandi districts as per Section VII- B- Site tables).
GCC 1.1 (e) (x)	**Contract Period: Total 66 (Sixty-six) months which include:** **(A) Design, Supply, Installation, commissioning and testing of IRSES – 6 (six) months.** **(B) Operations, maintenance and management – 60 (sixty) months** (starts after the end of Installation, commissioning and testing of IRSES of 6 months), inclusive of 60 months of the warranty period.
GCC 1.1 (e) (xiii)	The Post-Warranty Services Period is not ***Applicable:***

2. Notices (GCC Clause 4)

GCC 4.3	Address of the Project Manager: Director (Projects), HPRIDCL, Nirman Bhawan, Nigam Vihar, Shimla-171002 Himachal Pradesh (India)Telephone number +91-117-2627602, Facsimile number: +91-117-2620663, email address: pdsrp-hp@nic.in Fallback address of the Purchaser: Director (Projects), HPRIDCL, Nirman Bhawan, Nigam Vihar, Shimla-

	171002 Himachal Pradesh (India)Telephone number +91-117-2627602, Facsimile number: +91-117-2620663, email address: pdsrp-hp@nic.in
GCC 5.1	The Contract shall be governed by and interpreted in accordance with the laws of India.

B. SUBJECT MATTER OF CONTRACT

3. Scope of the System (GCC Clause 7)

GCC 7.3	The Supplier's obligations under the Contract will include the following recurrent cost items, as identified in the Recurrent Cost tables in the Supplier's Bid: i. Supply consumables, spare parts and technical services required for the operations, **maintenance** & management services for 5 years ii. Electricity & internet charges for 5 years iii. Any Other Charges for fulfilling the Solution and Operation for 5 Years

4. Time for Commencement and Operational Acceptance (GCC Clause 8)

GCC 8.1	The Supplier shall commence work on IRSES System within ***Fifteen (15) days*** from the date of signing the contract and installation, commissioning and testing within 6 months from the Date of Commencement.
GCC 8.2	Operational Acceptance will occur on or before: 6 months from the date of commencement as mentioned in the implementation schedule.

5. Supplier's Responsibilities (GCC Clause 9)

GCC 9.1	Add the following at the end of GCC Clause 9.1: "The employees of the Supplier and the Sub-Contractors in no case shall be treated as the employees of the Purchaser at any point of time."
GCC 9.5	Add the following at the end of GCC Clause 9.5: "Salient features of major labour and other laws that are applicable to manufacturing, installation and other construction industry in India are given as Annexure 1 to these General Conditions of Contract."
GCC 9.9	The following sustainable procurement contractual provisions apply: **None**
GCC 10.12	The Purchaser shall have the following additional responsibilities: None

C. PAYMENT

6. Contract Price (GCC Clause 11)

GCC 11.2	Adjustments to the Contract Price shall be as follows: The remuneration of the personnel for Technical and Operation Services under Recurrent Cost paid in local currency pursuant to the rates set forth in "Appendix 6. Revised Price Schedules" shall be adjusted every 12 months (and, for the first time, with effect for the remuneration earned in the 13th the calendar month after the date of the Contract by applying the following formula: $R_l = R_{lo} \times \frac{I_l}{I_{lo}}$ {or $R_l = R_{lo} \times \left[0.1 + 0.9 \frac{I_l}{I_{lo}} \right]$} where R_l is the adjusted remuneration of the personnel for Technical and Operation Services under Recurrent Cost; R_{lo} is the remuneration of the personnel for Technical and Operation Services under Recurrent Cost payable on the basis of the remuneration rates (Appendix 6) in local currency; I_l is the official index for salaries in the Client's country for the first month for which the adjustment is to have effect; and I_{lo} is the official index for salaries in the Client's country for the month of the date of the Contract. The official index for salaries corresponding to I_l and I_{lo} in the adjustment formula for remuneration of the personnel for Technical and Operation Services under Recurrent Cost paid in local currency: **Official Consumer Price Index for salaries maintained by Central Statistical Office, India for Urban (General)**

7. Terms of Payment (GCC Clause 12)

GCC 12.1	Subject to the provisions of GCC Clause 12 (Terms of Payment), the Purchaser shall pay the Total Contract Price to the Supplier according to the project deliverable phases and in the manner specified below. **Payment Milestones**

No.	Deliverable/ Item	Timeline	Payment (%)	Remarks
1.	Submission of Project Implementation plan, site viability report, and schedule.	T0 + 3 weeks	4%	Includes Project management, Quality management, Project milestones, Testing, documentation, etc.
2.	Hardware Delivery report and Asset Inventory List	T0 + (within) 5 months	30%	Detailed inventory of delivered hardware and assets (3 separate Invoices (minimum value of 7% of Contract Price) can be claimed based on supply and inventory acceptance. The maximum claim percentage under this deliverable is 30% of the Contract Price as mentioned in the payment percentage).
3.	Report of Pilot Demonstration with end-user acceptance	T0 + 15 weeks	-	Pilot Demonstration report and acceptance from end users.
4.	Detailed project implementation report	T0 + 4 months	-	Detailed report explaining traffic rules enforcement, violations, and system integration.
5.	Training and Certifications for Department	T0 + 5 months	-	Training on IRSES software modules for HP

	personnel			Police personnel.
6.	Submission of Requirement specification and Low-Level Design document	T0 + 5 months	-	Includes product details with supporting screenshots.
7.	Schematic Diagram (hardcopy and Soft copy)	T0 + 5 months	-	Includes both hardcopy and softcopy of system schematic diagrams.
8.	Low-Level Design document (LLD) with detailed Implementation and operation procedure report	T0 + 5 months	-	Comprehensive LLD with implementation procedures.
9.	Ownership details of implemented hardware and software with 5-year warranty, OEM SLA, and RMA process documents	T0 + 5 months	-	Ownership documents, warranty details, and SLA/RMA process information.
10.	Final Test Report and performance security	T0 + 6 months	40%	Final testing.
11.	Quarterly maintenance report	Every 3 months for 5 years	-	Includes MTBF, MTTR, RCA, Uptime/Downtime report, etc.

	12.	Half-yearly Periodical report including the approval of quarterly maintenance reports	First half of 1st year after commissioning	2%	Periodical report with maintenance updates.
	13.	Half-yearly Periodical report including the approval of quarterly maintenance reports	Second half of 1st year after commissioning	2%	Periodical report with maintenance updates.
	14.	Half-yearly Periodical report including the approval of quarterly maintenance reports	First half of 2nd year after commissioning	2%	Periodical report with maintenance updates.
	15.	Half-yearly Periodical report including the approval of quarterly maintenance reports	Second half of 2nd year after commissioning	2%	Periodical report with maintenance updates.
	16.	Half-yearly Periodical report including the approval of quarterly maintenance reports	First half of 3rd year after commissioning	2%	Periodical report with maintenance updates.
	17.	Half-yearly Periodical report including the approval of quarterly maintenance	Second half of 3rd year after commissioning	2%	Periodical report with maintenance updates.

	reports			
18.	Half-yearly Periodical report including the approval of quarterly maintenance reports	First half of 4th year after commissioning	2%	Periodical report with maintenance updates.
19.	Half-yearly Periodical report including the approval of quarterly maintenance reports (including training report)	Second half of 4th year after commissioning	4%	Periodical report including training status updates.
20.	Half-yearly Periodical report including the approval of quarterly maintenance reports (including Training cum on-job training report)	First half of 5th year after commissioning	4%	Periodical report including training status updates.
21.	Half-yearly Periodical report including the approval of quarterly maintenance reports (including on-job training report)	Second half of 5th year after commissioning	4%	Final periodical report with training updates.

T0 = Date of Commencement

Note: Payment Terms Based on Deliverables

	Payment after Hardware Delivery Report and Asset Inventory List • Payment for supply/installation shall be made after submitting the certified Good Receipt or installation report along with the bill on actuals, signed by a duly authorized person. After executing the Contract Agreement, the Supplier must enter into an MSA or SLA with the HPRIDCL and execute a tripartite agreement with HP Police and HPRIDCL. (3 separate Invoices with minimum value of 7% of Contract Price can be claimed based on supply and inventory acceptance. The maximum claim percentage under this deliverable is 30% of the Contract Price as mentioned in the payment percentage). The following should be submitted with the invoice: o Demonstration report & Asset Inventory List o Ownership details of implemented hardware and software with warranty, OEM SLA, and RMA process documents **Payment after Project Implementation and Testing** • Payment shall be made after the Final Test Report is duly signed and accepted by the HP police and HPRIDCL. Document proof of the five-year Hardware and software OEM warranty support of all components should be submitted with the invoice. **Payment after Periodical Report on Every 6 Months for 5 Years** • The Supplier should provide the following details in the periodical report every 6 months after commissioning IRSES, along with the invoice: o Manpower utilization and monthly attendance report o Team performance report o Upcoming and deferred preventive maintenance o 3 months quarterly maintenance report during the 6-month period **Maintenance Report on Every 3 Months for 5 Years** • The Supplier should submit a quarterly maintenance report every 3 months for 5 years, including: o Mean Time Between Failures (MTBF), Mean Time to Repair/Recovery (MTTR), and Root Cause Analysis (RCA) o Periodical Maintenance and Health checkups reports for all IT and Non-IT components o Server and Network DOWNTIME and UPTIME Report o Report of the number of issues raised and average issue handling time, SLA breaches

	○ Backup and restoring report ○ Non-IT downtime and uptime report These payment terms and milestones are designed to ensure that the IRSES project is implemented effectively and that all deliverables are met to the satisfaction of the HP Police and HPRIDCL. The structured payment schedule provides a balanced approach, ensuring that the supplier receives timely payments while also delivering value and maintaining the system over the contract period. **Note:** The Supplier should submit the periodic reports within 7 working days of beginning of the subsequent months to the Purchaser. Further, the Purchaser shall assess the performance of Supplier against the service level parameters mentioned in the Service Level Agreement. All the milestone payments will be made subject to no objection certificate obtained from the Purchaser on the performance of the Supplier during this period. ***Payment Terms:*** • The request for release of payment shall be made to the Purchaser in writing, accompanied by invoices describing, as appropriate, the services performed, and by the required documents submitted pursuant to conditions of the Contract and upon fulfilment of all the obligations stipulated in the Contract. • The consideration payable under this Contract by the Purchaser, to the Supplier shall be paid after Tax Deductions at Source (TDS) at applicable rate as per section 149J of Income Tax Act 1961. • The currency in which payments shall be made to the Supplier under this Contract shall be in Indian Rupees only. • All remittance charges shall be borne by the Supplier. • In case of disputed claims, the disputed amount shall be withheld and shall be paid only after settlement of the dispute. Any penalties / liquidated damages, as applicable, for delay and non-performance, as mentioned in the Conditions of Contract and Service Level Agreement, shall be deducted from the due payments of the respective deliverable as mentioned above.
GCC 12.3	The Purchaser shall pay to the Supplier interest on the delayed payments at a rate: As per the prime lending rate notified by the State Bank of India (SBI) during the entire period of Contract.
GCC 12.4	The Supplier will invoice the Purchaser in INR.

8. Securities (GCC Clause 13)

GCC 13.2.2	The reduction in value and expiration of the Advance Payment Security are calculated as follows: ***None***
GCC 13.3.1	The Supplier shall submit two separate Performance Security (which will be equivalent to 10% of the Contract Price) and denominated in INR for an amount equal to 5% and 5% of the Contract Price respectively.
GCC 13.3.4	Performance Security will be returned to the selected bidder in following manner: 1. Performance Security of 5% will be returned to selected bidder after Operation Acceptance of the System. 2. Performance Security of 5% will be returned to selected bidder after successful completion of 5th year Operation, Maintenance, and Management, and as per clause GCC 13.3.3.
GCC 14.2	In GCC 14.2 replace the words 'value added or sales tax or stamp duty' with 'GST or stamp duty etc.' in the fifth line.
GCC 14.3	Add at the end of GCC 14.3 the following: "This will not apply to deemed export or similar benefits for which the supplier is solely responsible for obtaining such benefits."
GCC 14.4	Add at the end of GCC 14.4 the following: "However, these adjustments would be restricted to direct transactions between the Purchaser and the Supplier and not on procurement of raw materials, intermediary components etc. by the Supplier. Further, no adjustment of the Contract Price shall be made on account of variation in deemed export or similar benefits".

D. INTELLECTUAL PROPERTY

9. Copyright (GCC Clause 15)

GCC 15.3	The Purchaser may assign, license, or otherwise voluntarily transfer its contractual rights to use the Standard Software or elements of the Standard Software, without the Supplier's prior written consent, under the following circumstances: None
GCC 15.4	The Purchaser ***shall not retain Intellectual Property Rights*** in the Custom Software The Purchaser possess perpetual licenses of its use from the Supplier. The Purchaser's right in relation to the Custom Software shall be restricted to ***"user" rights*** only.

GCC 15.5	***There are no Special Conditions of Contract applicable to GCC Clause 15.5.***

10. Software License Agreements (GCC Clause 16)

GCC 16.1 (a) (ii)	Perpetual license- fully paid up and irrevocable (except that it shall terminate if the Contract terminates under GCC Clauses 41.1 or 41.3);
GCC 16.1 (a) (iii)	The Standard Software perpetual license shall be valid: ***"throughout India"***
GCC 16.1 (a) (iv)	*Use of the software shall be subject to the following additional restrictions:* ***None***
GCC 16.1 (b) (vi)	***There are no Special Conditions of Contract applicable to GCC Clause 16.1 (b) (vi)***
GCC 16.1 (b) (vii)	There are no Special Conditions of Contract applicable to GCC Clause 16.1 (b) (vii)**'**
GCC 16.2	***There are no Special Conditions of Contract applicable to GCC Clause 16.2***

11. Confidential Information (GCC Clause 17)

GCC 17.1	**There are no Special Conditions of Contract applicable to GCC Clause 17.1**

E. SUPPLY, INSTALLATION, TESTING, COMMISSIONING, AND ACCEPTANCE OF THE SYSTEM

12. Representatives (GCC Clause 18)

GCC 18.1	***There are no Special Conditions of Contract applicable to GCC Clause 18.1***
GCC 18.2.2	***There are no Special Conditions of Contract applicable to GCC Clause 18.2.2***

13. Project Plan (GCC Clause 19)

GCC 19.1	Chapters in the Project Plan shall address the following subject**:** • Project management and time schedule for Delivery. • Project Controls. • Quality management. • High-level Design Document • Project Risk Management.

	• Procurement Plan. • Transportation and Delivery of Hardware. • Project milestones • Testing and documentation • Low Level Design document • OEM Warranty details • Customer Ownership documents • Commissioning. • **Training Plan** Further details regarding the required contents of each of the above chapters are contained in the Technical Requirements, **Section VII**.
GCC 19.6	***The Supplier shall submit to the Purchaser:*** **Hardware delivery report and asset inventory list** • Demonstration report & Asset Inventory List • Ownership details of implemented hardware and software with warranty, OEM SLA and RMA process documents **Project implementation and Final test report** **Periodical report on every 6 months for 5 years** - Manpower utilization and monthly attendance report - Team performance report - Upcoming and deferred preventive maintenance - 3 months quarterly maintenance report during 6-month period **Maintenance report on every 3 months for 5 years** - Mean time between failures (MTBF), Mean time to repair / recovery (MTTR) and RCA - Periodical Maintenance and Health checkups reports for all IT and Non-IT components. - Server and Network DOWNTIME and UPTIME Report - Report of the Number of issues raised and average issue handled time, SLA breaches - Back up and resorting report - Non-IT downtime and uptime report
20. Subcontracting (GCC Clause 20)	
GCC 20	***There are no Special Conditions of Contract applicable to GCC Clause 20."***

14. Design and Engineering (GCC Clause 21)

GCC 21.3.1	***Design and system architecture ensuring it meets the specific needs of***

	the HP Police is required to be submitted to the purchaser for review and approval.
22. Procurement, Delivery, and Transport (GCC Clause 22)	
GCC 22.4.3	The Supplier *shall* be free to use transportation through carriers registered in any eligible country and *shall* obtain insurance from any eligible source country.
GCC 22.5	The Supplier shall provide the Purchaser with shipping and other documents ***- as specified in the GCC.***

15. Product Upgrades (GCC Clause 23)

GCC 23.4	The Supplier shall provide the Purchaser: ***as specified in the GCC.***
24. Implementation, Installation, and Other Services (GCC Clause 24)	
GCC 24	***There are no Special Conditions of Contract applicable to GCC Clause 24."***

16. Inspections and Tests (GCC Clause 25)

GCC 25	***'There are no Special Conditions of Contract applicable to GCC Clause 25'.***
26. Installation of the System (GCC Clause 26)	
GCC 26	Considering the nature and scope of the project, the supplier is required to provide a delivered inventory list along with delivered acceptance to the project manager as per the project plan and commitments. It is the supplier's responsibility to test and install the devices according to the scope of work and to maintain them for a period of five years without fail. In the event of a device malfunction or defect, the supplier must take appropriate action to replace the device in accordance with the SLA clause and warranty terms outlined in Section VII of the Information System requirements. At the conclusion of the project support phase, which is five years from the commencement of support, the Supplier must ensure that all supplied and functioning devices are handed over to the end user in the best possible working condition. The supplier must obtain certification from the project manager or end customer to confirm the completion of the operational phase of the project.

17. Commissioning and Operational Acceptance (GCC Clause 27)

GCC 27.2.1	Considering the project scope and nature, the supplier must adhere to the project supply, implementation, and support clauses as outlined in Section VII of the Information System requirements, specifically under

	Data Infrastructure Operations and Management. Project testing and acceptance will be determined based on the agreed project plan, which the Supplier must submit at the project kick-off and will be streamlined according to the implementation guidelines. All specified solution requirements, guidelines, and best practices will be incorporated upon finalization of the technical and commercial acceptance. The final contract agreement between the end user and the Supplier will govern the project commissioning and operational acceptance phase, ensuring that all aspects of the project are completed to the agreed-upon standards.

F. GUARANTEES AND LIABILITIES

18. Operational Acceptance Time Guarantee (GCC Clause 28)

GCC 28.2	***There are no Special Conditions of Contract applicable to GCC Clause 28.2.***
GCC 28.3	Liquidated damages shall be assessed ***only with respect to achieving Operational Acceptance of the System***

19. Defect Liability (GCC Clause 29)

GCC 29.1	For Software, exceptions or limitations to the Supplier's warranty obligations shall be as follows: **None.**
GCC 29.4	Warranty Period shall commence from the date of Operational Acceptance of the System and shall extend for sixty (60) months**.**
GCC 29.10	***There are no Special Conditions of Contract applicable to GCC Clause 29.10'***

20. Functional Guarantees (GCC Clause 30)

GCC 30	***There are no Special Conditions of Contract applicable to GCC Clause 30.***

G. RISK DISTRIBUTION

21. Insurances (GCC Clause 37)

GCC 37.1(a)	Add at the end of GCC 37.1(a) the following: ", on all risk basis including war risks and strikes."
GCC 37.1 (c)	The Supplier shall obtain Third-Party Liability Insurance towards all its

	liabilities under the Contract and its obligations towards the Supplier's personnel as applicable, including insurance coverage towards workers' compensation, life, health, accident, and travel. The Insurance shall cover the period of the complete Contract including the operations, maintenance and management period.
GCC 37.1 (e)	The Supplier shall obtain Worker's Compensation Insurance in accordance with the statutory requirements of Purchaser's Country requirements. The Insurance shall cover the period from beginning date, relative to the Effective Date of the Contract until expiration date, relative to the Effective Date of the Contract or its completion. The Supplier shall obtain Employer's Liability Insurance in accordance with the statutory requirements of India. The Insurance shall cover the period from beginning date, relative to the Effective Date of the Contract until expiration date, relative to the Effective Date of Contract or its completion.
GCC 37.7	Add Clause GCC 37.7 as under: ***"Appropriation of Insurance Proceeds*** Should any loss or damage occur, the Supplier shall: a) initiate and pursue claim till settlement; and b) promptly make arrangements for repair and/or replacement of the damaged or lost item/s and ensure supply/commissioning in terms of the contract, irrespective of settlement of claim by the insurance company. Keeping in view the above the purchaser shall give, from time to time, written authorization to the insurance company to directly pay monies payable by the insurer to the supplier after excluding any payment including advances already paid by the purchaser in respect of those items, Such excluded payments will be payable to the Purchaser only and insurer will accordingly make the payment as advised by the purchaser from time to time. All subsequent payments, if any, due under the Contract, shall be regulated by the relevant terms of payment."

H. CHANGE IN CONTRACT ELEMENTS

22. Changes to the System (GCC Clause 39)

GCC 39.4	**Provisions related to Value Engineering do not apply.**
GCC 41	***There are no Special Conditions of Contract applicable to GCC Clause 41.***

GCC 41.2.2	Add the following as sub-clause 41.2.2(e) "in case of Joint Venture, has modified the composition of the joint venture and/or the responsibility of each member of the joint venture from what is stated in joint venture agreement without the prior approval of the Purchaser;"

I. SETTLEMENT OF DISPUTES

23. Settlement of Disputes (GCC Clause 43)

GCC 43.1.4	The Appointing Authority for the Adjudicator is: **Indian Council of Arbitration**.
GCC 43.2.3	Disputes shall be settled in accordance with Indian Arbitration and Conciliation Act, 1996 as modified from time to time. Number of Arbitrators: Sole Arbitrator. Venue. The venue of Arbitration shall be Shimla.

J. SERVICE LEVEL AGREEMENT

24. Service Level Agreement (GCC Clause 47)

GCC 47.1	The SLA outlines the standards and expectations for service delivery, ensuring that the Supplier adheres to project timelines, quality, and after-sales service. **Key Elements of the SLA** 1. **Performance Indicators:** o **Details:** The SLA should specify clear performance indicators against which the services provided by the Supplier will be measured. These indicators will cover various aspects of the project, such as system uptime, response times for maintenance, resolution of issues, and overall system performance. 2. **Timely Delivery of Deliverables:** o **Details:** The SLA should mandate the Supplier to deliver all project deliverables within the agreed timelines. This includes the installation, maintenance, updates, and any other services that are part of the project scope. 3. **Quality Assurance:** o **Details:** The SLA should set forth quality standards for the services provided. The Supplier must meet these standards in all aspects of their work, ensuring that all system components and services are reliable and function as intended.

4. **After Sales Service:**

   - **Details:** The SLA should detail the after-sales service requirements, including warranty services for hardware and software components, ongoing technical support, and regular system updates and upgrades.

5. **System Availability and Uptime:**

   - **Details:** The SLA should specify the minimum system availability and uptime required, ensuring that the IRSES remains operational and functional at all times, barring any scheduled maintenance or unforeseen circumstances.

6. **Response and Resolution Times:**

   - **Details:** The SLA should define the maximum response times for various types of issues and the expected resolution times, ensuring quick and effective handling of any problems that arise.

7. **Regular Reporting and Reviews:**

   - **Details:** The SLA should require the Supplier to provide regular reports on their service performance and participate in periodic reviews to assess compliance with the SLA terms.

8. **Penalties for Non-Compliance:**

   - **Details:** The SLA should outline the penalties or consequences for failing to meet the agreed-upon service levels. This might include financial penalties, additional service requirements, or other measures.

9. **Continuous Improvement:**

   - **Details:** The SLA should encourage continuous improvement in service delivery, with the Supplier expected to adapt to changing project needs and incorporate feedback from HPRIDCL.

10. **Escalation Procedures:**

    - **Details:** The SLA should provide clear escalation procedures for any disputes or significant issues that arise, ensuring a swift and effective resolution process.

GCC 47.2

The penalty against the defined SLA Categories is mentioned below.

Sl. No.	Service Level Category	Expected Service Level	Penalty
1	Uptime of Command Center, VMS, Software Services	99.90% and above	No Penalty
2	Uptime between 98.00% and 99.90%		1% of quarterly O&M charges

3	Uptime between 96.00% and 98.00%		2% of quarterly O&M charges	
4	Uptime between 90.00% and 96.00%		3% of quarterly O&M charges	
5	Uptime below 90.00%		5% of quarterly O&M charges	

Sl. No.	Service Level Category	Expected Service	Penalty
1	Hardware replacement	Up to 24 hours	No Penalty
2	Replacement between 24-36 hours		Rs. 100 per hour Maximum 2000 P day
3	Replacement between 36-48 hours		Rs. 250 per hour and Maximum 30 per day
4	Replacement beyond 48 hours		Rs. 500 per hour Maximum 5000 p day

Absence Shifts Per Role in a Quarter	Penalty/Actions
>0 but <=10	No. of absence shifts × defined penalty for the role
>10 but <=30	No. of absence shifts × 2 × defined penalty for the role
>30	No. of absence shifts × 2 × defined penalty, and issue a lett warning

Penalties/Liquidated damages for delay in Delivery and Installation would be as under.

Non-compliance of the Supply/ delivery will result in the Client imposing penalty of 0.50% on delay in delivery per week or part thereof, on the invoice value of that particular Item/solution location wise.

Non-compliance of the Installation, Configuration, Implementation will result in the Client imposing penalty of 0.50% on delay in Implementation per week or part thereof, on the invoice value of that particular Item/solution location wise.

Termination Trigger: A score of 0 points in any SLA category for two consecutive quarters within a 12-month period may trigger contract termination.

Cumulative Penalties: Penalties from different SLA categories will accumulate,

	reflecting the total penalty on the quarterly invoice value.

Annexure 1

Salient Features of Labor & Environment Protection Laws[12]

SALIENT FEATURES OF SOME MAJOR LABOUR LAWS

APPLICABLE TO ESTABLISHMENTS ENGAGED IN MANUFACTURE, INSTALLATION AND OTHER CONSTRUCTION WORK

(a) Employees Compensation Act 1923: The Act provides for compensation in case of injury, disease or death arising out of and during the course of employment.

(b) Payment of Gratuity Act 1972: gratuity is payable to an employee under the Act on satisfaction of certain conditions on separation if an employee has completed 5 years' service or more or on death at the rate of 15 days wages for every completed year of service. The Act is applicable to all establishments employing 10 or more employees.

(c) Employees P.F. and Miscellaneous Provision Act 1952 (*since amended*): The Act provides for monthly contribution by the employer plus workers @ 10% or 8.33%. The benefits payable under the Act are:

(i) Pension or family pension on retirement or death, as the case may be.

(ii) Deposit linked insurance on the death in harness of the worker.

(iii) Payment of P.F. accumulation on retirement/death etc.

(d) Maternity Benefit Act 1961: The Act provides for leave and some other benefits to women employees in case of confinement or miscarriage etc.

(e) Sexual Harassment of Women at the Workplace (Prevention, Prohibition and Redressal) Act, 2013: This Act defines sexual harassment in the workplace, provides for an enquiry procedure in case of complaints and mandates the setting up of an Internal Complaints Committee or a Local Complaints Committee

(f) Contract Labour (Regulation & Abolition) Act 1970: The Act provides for certain welfare measures to be provided by the Contractor to contract labour and in case the Contractor fails to provide, the same are required to be provided, by the Principal Employer by law. The Principal Employer is required to take Certificate of Registration and the Contractor is required to take license from the

[12] This list is only illustrative and not exhaustive. Bidders and Contractors are responsible for checking the correctness and completeness of the list. The law as current on the date of bid opening will apply.

designated Officer. The Act is applicable to the establishments or Contractor of Principal Employer if they employ 20 or more contract labour.

(g) Minimum Wages Act 1948: The Employer is supposed to pay not less than the Minimum Wages fixed by appropriate Government as per provisions of the Act if the employment is a scheduled employment. Construction of Buildings, Roads, Runways are scheduled employments.

(h) Payment of Wages Act 1936: It lays down the mode, manner and by what date the wages are to be paid, what deductions can be made from the wages of the workers.

(i) Equal Remuneration Act 1976: The Act provides for payment of equal wages for work of equal nature to male and female workers and for not making discrimination against Female employees in the matters of transfers, training and promotions etc.

(j) Payment of Bonus Act 1965: The Act is applicable to all establishments employing 20 or more employees. Some of the State Governments have reduced this requirement from 20 to 10. The Act provides for payments of annual bonus subject to a minimum of 8.33% of the wages drawn in the relevant year. It applies to skilled or unskilled manual, supervisory, managerial, administrative, technical or clerical work for hire or reward to employees who draw a salary of Rs. 10,000/- per month or less. To be eligible for bonus, the employee should have worked in the establishment for not less than 30 working days in the relevant year. The Act does not apply to certain establishments.

(k) Industrial Disputes Act 1947: The Act lays down the machinery and procedure for resolution of Industrial disputes, in what situations, a strike or lock-out becomes illegal and what are the requirements for laying off or retrenching the employees or closing down the establishment.

(l) Trade Unions Act 1926: The Act lays down the procedure for registration of trade unions of workmen and employers. The Trade Unions registered under the Act have been given certain immunities from civil and criminal liabilities.

(m) Child Labour (Prohibition & Regulation) Act 1986: The Act prohibits employment of children below 14 years of age in certain occupations and processes and provides for regulation of employment of children in all other occupations and processes. Employment of Child Labour is prohibited in the Building and Construction Industry.

(n) Inter-State Migrant workmen's (Regulation of Employment & Conditions of Service) Act 1979: The Act is applicable to an establishment which employs 5 or more inter-state migrant workmen through an intermediary (who has recruited workmen in one state for employment in the establishment situated in another

state). The Inter-State migrant workmen, in an establishment to which this Act becomes applicable, are required to be provided certain facilities such as housing, medical aid, traveling expenses from home upto the establishment and back, etc.

(o) The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act 1996 and the Building and Other Construction Workers Welfare Cess Act, 1996 (BOCWW Cess Act): All the establishments who carry on any building or other construction work and employ 10 or more workers are covered under these Acts. All such establishments are required to pay cess at the rate not exceeding 2% of the cost of construction as may be notified by the Government. The Employer of the establishment is required to provide safety measures at the building or construction work and other welfare measures, such as Canteens, First – Aid facilities, Ambulance, Housing accommodations for workers near the work place etc. The Employer to whom the Act applies has to obtain a registration certificate from the Registering Officer appointed by the Government.

(p) Factories Act 1948: The Act lays down the procedure for approval of plans before setting up a factory engaged in manufacturing processes, health and safety provisions, welfare provisions, working hours, annual earned leave and rendering information regarding accidents or dangerous occurrences to designated authorities. It is applicable to premises employing 10 persons or more with aid of power or 20 or more persons without the aid of power.

(q) Weekly Holidays Act -1942

(r) Bonded Labour System (Abolition) Act, 1976: The Act provides for the abolition of bonded labour system with a view to preventing the economic and physical exploitation of weaker sections of society. Bonded labour covers all forms of forced labour, including that arising out of a loan, debt or advance.

(s) Employer's Liability Act, 1938: This Act protects workmen who bring suits for damages against employers in case of injuries endured in the course of employment. Such injuries could be on account of negligence on the part of the employer or persons employed by them in maintenance of all machinery, equipment etc. in healthy and sound condition.

(t) Employees State Insurance Act 1948: The Act provides for certain benefits to insured employees and their families in case of sickness, maternity and disablement arising out of an employment injury. The Act applies to all employees in factories (as defined) or establishments which may be so notified by the appropriate Government. The Act provides for the setting up of an Employees' State Insurance Fund, which is to be administered by the Employees State Insurance Corporation. Contributions to the Fund are paid by the employer and the employee at rates as prescribed by the Central Government. The Act also provides for benefits to dependents of insured persons in case of death as a result of an employment injury.

(u) The Personal Injuries (Compensation Insurance) Act, 1963: This Act provides for the employer's liability and responsibility to pay compensation to employees where workmen sustain personal injuries in the course of employment.

(v) Industrial Employment (Standing Order) Act 1946: It is applicable to all establishments employing 100 or more workmen (employment size reduced by some of the States and Central Government to 50). The Act provides for laying down rules governing the conditions of employment by the Employer on matters provided in the Act and get the same certified by the designated Authority.

SALIENT FEATURES OF SOME OF THE MAJOR LAWS THAT ARE APPLICABLE FOR PROTECTION OF ENVIRONMENT.

1. The Environment (Protection) Act, 1986 and as amended: This provides for the protection and improvement of environment and for matters connected therewith, and the prevention of hazards to human beings, other living creatures, plants and property. 'Environment' includes water, air and land and the inter-relationship which exists among and between water, air and land, and human beings, other living creatures, plants, micro-organism and property.

2. The Forest Conservation Act, 1980, as amended, and Forest (Conservation) Rules, 1981 as amended: These provides for protection of forests by restricting conversion of forested areas into non- forested areas and prevention of deforestation, and stipulates the procedures for cutting any trees that might be required by the applicable rules. Permissions under the Act also stipulates the norms and compliance requirements of the employer and any contractor on behalf of the employer.

3. State Tree Preservation Acts as may be in force: These provide for protection of trees of important species. Contractors will be required to obtain prior permission for full or partial cutting, uprooting, or pruning of any such trees.

4. The Wildlife (Protection) Act, 1972, and as amended: This provides for protection of wildlife through notifying National Parks and Sanctuaries and buffer areas around these zones; and to protect individuals of nationally important species listed in the Annex of the Act.

5. The Biological Diversity Act, 2002: This provides for conservation of biological diversity, sustainable use of components of biological diversity, and fair and equitable sharing of the benefits arising out of the use of biological resources, knowledge and for matters connected therewith or incidental thereto.

6. The Public Liability Insurance Act, 1991 as amended and The Public Liability Insurance Rules, 1991 as amended: These provide for public liability insurance for the purpose of providing immediate relief to the persons affected by accident occurring while handling hazardous substances and for mattes connected herewith or incidental thereto. Hazardous substance means any substance or preparation which is defined as hazardous substance under the Environment (Protection) Act 1986, and exceeding such quantity as may be specified by notification by the Central Government.

7. The Ancient Monuments and Archaeological Sites and Remains Act, 1958 and the Ancient Monuments and Archaeological Sites and Remains (Amendment and Validation) Act, 2010, the Ancient Monuments and Archaeological Sites and Remains Rules, 1959 amended 2011, the National Monuments Authority Rules, 2011 and the similar State Acts: These provide for conservation of cultural and historical remains found in India. Accordingly, area within the radii of 100m and 300m from the "protected property" are designated as "protected area" and "controlled area" respectively. No development activity (including building, mining, excavating, blasting) is permitted in the "protected

area" and development activities likely to damage the protected property is not permitted in the "controlled area" without prior permission of the Archaeological Survey of India (ASI) or the State Departments of Art and Culture or Archaeology as applicable.

8. The Environmental Impact Assessment Notification, 2006 and as amended: This provides for prior environmental clearance for new, modernization and expansion projects listed in Schedule 1 of the Notification. Contractors will be required to ensure that no work starts until applicable clearances under the Notification is not available. Contractors will be responsible for implementation of any environmental management plan stipulated as per the permission under this Notification; and will be required to prepare and submit to the employer and compliance report stipulated in the permission under the Notification.

9. The Water (Prevention and Control of Pollution) Act, 1974 as amended, and the Water (Prevention and Control of Pollution) Rules, 1975 as amended: These provide for the prevention and control of water pollution and the maintaining and restoring of wholesomeness of water. 'Pollution' means such contamination of water or such alteration of the physical, chemical or biological properties of water or such discharge of any sewage or trade effluent or of any other liquid, gaseous or solid substance into water(whether directly or indirectly) as may, or is likely to, create a nuisance or render such water harmful or injurious to public health or safety, or to domestic, commercial, industrial, agricultural or other legitimate uses, or to the life and health of animals or plants or of aquatic organisms. Contractors will need to obtain consent for establishment and consent for operation of any item of work or installation of equipment that generates waste water, and observe the required standards of establishment and operation of these items of work or installations; as well as install and operate all required waste water treatment facilities.

10. The Water (Prevention and Control of Pollution) Cess Act, 1977 and The Water (Prevention and Control of Pollution) Cess Rules, 1978: These provide for the levy and collection of a cess on water consumed by persons carrying on certain industries and by local authorities, with a view to augment the resources of the Central Board and the State Boards for the prevention and control of water pollution under the Water (Prevention and Control of Pollution) Act, 1974.

11. The Air (Prevention and Control of Pollution) Act, 1981 as amended, and the Air (Prevention and Control of Pollution) Rules, 1982: These provides for prevention, control and abatement of air pollution. 'Air Pollution' means the presence in the atmosphere of any 'air pollutant', which means any solid, liquid or gaseous substance (including noise) present in the atmosphere in such concentration as may be or tend to be injurious to human beings or other living creatures or plants or property or environment. Contractors will need to obtain consent for establishment and consent for operation of any item of work or installation of equipment that generates air pollution such as batching plants, hot mix plants, power generators, backup power generation, material handling processes, and observe the required standards of establishment and operation of these items of work or installations.

12. Noise Pollution (Control and Regulation) Rules, 2000, and as amended: This provides for standards for noise for day and night for various land uses and specifies special standards in and around sensitive receptors of noise such as schools and hospitals. Contractors will need to ensure compliance to the applicable standards, and install and operate all required

noise control devices as may be required for all plants and work processes.

13. Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996: This provides for Requirement of preparation of on-site and off-site Disaster Management Plans for accident-prone areas.

14. The Explosives Act 1884 and the Explosives Rules, 2008: These provide for safe manufacture, possession, sale, use, transportation and import of explosive materials such as diesel, Oil and lubricants etc.; and also for regulating the use of any explosives used in blasting and/or demolition. All applicable provisions will need compliance by the contractors.

15. The Petroleum Rules, 2002: This provides for safe use and storage of petroleum products, and will need to be complied by the contractors.

16. The Gas Cylinder Rules 2004 and amendments: This provides for regulations related to storage of gas, and possession of gas cylinder more than the exempted quantity. Contractors should comply with all the requirements of this Rule.

17. Manufacture, Storage and Import of Hazardous Chemical Rules of 1989 and as amended: These provide for use and storage of hazardous material such as highly inflammable liquids like HSD/LPG. Contractors will need to ensure compliance to the Rules; and in the event where the storage quantity exceeds the regulated threshold limit, the contractors will be responsible for regular safety audits and other reporting requirements as prescribed in the Rules.

18. Hazardous & Other Wastes (Management and Transboundary Movement) Rules, 2016: These provide for protection of general public from improper handling storage and disposal of hazardous waste. The rules prescribe the management requirement of hazardous wastes from its generation to final disposal. Contractors will need to obtain permission from the State Pollution Control Boards and other designated authorities for storage and handling of any hazardous material; and will to ensure full compliance to these rules and any conditions imposed in the permit.

19. The Bio Medical Waste Management Rules, 2016: This provides for control, storage, transportation and disposal of bio-medical wastes. As and where the contractor has any first aid facility and dispensaries, established in either temporary or permanent manner, compliance to these Rules are mandatory.

20. Construction and Demolition Waste Management Rules, 2016: This provides for management of construction and demolition waste (such as building materials possible to be reused, rubble and debris or the like); and applies to all those waste resulting from construction, re-modelling, repair or demolition of any civil structure. Contractor will need to prepare a waste disposal plan and obtain required approval from local authorities, if waste generation is more than 20 tons in any day or 300 tons in any month during the contract period; and ensure full compliance to these rules and any conditions imposed in the regulatory approval.

21. The E-Waste (Management) Rules, 2016: This provides for management of E-wastes (but not covering lead acid batteries and radio-active wastes) aiming to enable the

recovery and/or reuse of useful material from e-waste, thereby reducing the hazardous wastes destined for disposal and to ensure the environmentally sound management of all types of waste of electrical and electronic equipment. This Rule applies to every manufacturer, producer, consumer, bulk consumer, collection centers, dealers, e-retailer, refurbisher, dismantler and recycler involved in manufacture, sale, transfer, purchase, collection, storage and processing of e-waste or electrical and electronic equipment listed in Schedule I, including their components, consumables, parts and spares which make the product operational.

22. Plastic waste Management Rules, 2016: This provides for control and management of the plastic waste generated from any activity. Contractors will ensure compliance to this Rule.

23. The Batteries (Management and Handling) Rules 2001: This provides for ensuring safe disposal and recycling of discarded lead acid batteries likely to be used in any equipment during construction and operation stage. Rules require proper control and record keeping on the sale or import of lead acid batteries and recollection of the used batteries by registered recyclers to ensure environmentally sound recycling of used batteries. Contractors will ensure compliance to this Rule.

24. The Ozone Depleting Substances (Regulation and Control) Rules, 2000 and as amended: This provides for regulation of production and consumption of ozone depleting substances in the country, and specifically prohibits export to or import from countries not specified in the Rules, and prohibits unless specifically permitted, any use of ozone depleting substance.

25. The Coastal Regulation Zone Notifications, 1991 and as amended: This provides for regulation of development activities within the 500m of high tide line in coastal zone and 100m of stretches of rivers and estuaries influenced by tides. Contractors will be required to ensure that no work starts until applicable clearances under the Notification is not available. Contractors will be responsible for implementation of any plan stipulated as per the permission under this Notification; and will be required to prepare and submit to the employer and compliance report stipulated in the permission under the Notification.

26. The Motor Vehicle Act 1988 as amended (and State Motor Vehicle Acts as may be in force) and the Motor Vehicle Rules, 1989, and as amended (and State Motor Vehicle Rules as may be in force): To minimize the road accidents, penalizing the guilty, provision of compensation to victim and family and check vehicular air and noise pollution. Contractors will be required to ensure full compliance to these rules.

27. Easement Act, 1882: This provides for the rights of landowners on groundwater. Contractors will need to ensure that other landowners' rights under the Act is not affected by any groundwater abstraction by the contractors.

28. State Groundwater Acts and Rules as may be in force and the Guidelines for Groundwater Abstraction for drinking and domestic purposes in Notified Areas and Industry/Infrastructure project proposals in Non-Notified areas, 2012: These provide for regulating extraction of ground water for construction/industrial and drinking and domestic purposes. Contractors will need to obtain permission from Central/State

Groundwater Boards prior to groundwater abstraction through digging any bore well or through any other means; and will to ensure full compliance to these rules and any conditions imposed in the permit.

29. The Mines Act, 1952 as amended; the Minor Mineral and concession Rules as amended; and the State Mineral (Rights and Taxation) Acts as may be in force: These provide for for safe and sound mining activity. The contractors will procure aggregates and other building materials from quarries and borrow areas approved under such Acts. In the event the contractors open any new quarry and/or borrow areas, appropriate prior permission from the State Departments of Minerals and Geology will need to be obtained. Contractors will also need to ensure full compliance to these rules and any conditions imposed in the permit.

30. The Insecticides Act, 1968 and Insecticides Rules, 1971 and as amended: These provide for regulates the manufacture, sale, transport, distribution, export, import and use of pesticides to prevent risk to human beings or animals, and for matters connected therewith. No one should import or manufacture; sell, stock or exhibit foe sale; distribute, transport, use: (i) any misbranded insecticides, (ii) any insecticide the sale, distribution or use of which is for the time being prohibited under the Act; and (iii) any insecticide except in accordance with the condition on which it was registered under the Act.

31. National Building Codes of India, 2005 and as amended: This provides guidelines for regulating the building construction activities in India. The code mainly contains administrative regulations, development control rules and general building requirements; stipulations regarding materials, structural design and construction; and building and plumbing services. Contractors will be required to comply with all Bureau of Indian Standards Codes dealing with: (i) use and disposal of asbestos containing materials in construction; (ii) paints containing lead; (iii) permanent and temporary ventilations in workplace; (iv) safety, and hygiene at the workplace; (v) prevention of fire; (vi) prevention of accidents from faulty electrical gadgets, equipment and accessories; and all other such codes incidental to the Contract.

SECTION X - CONTRACT FORMS

Notes to Bidders on working with the Sample Contractual Forms

The following forms are to be completed and submitted by the successful Bidder following receipt of the Letter of Acceptance from the Purchaser: (i) Contract Agreement, with all Appendices; (ii) Performance Security.

- Contract Agreement: In addition to specifying the parties and the Contract Price, the Contract Agreement is where the: (i) Supplier Representative; (ii) if applicable, agreed Adjudicator and his/her compensation; and (iii) the List of Approved Subcontractors are specified. In addition, modifications to the successful Bidder's Bid Price Schedules are attached to the Agreement. These contain corrections and adjustments to the Supplier's bid prices to correct errors, adjust the Contract Price to reflect – if applicable - any extensions to bid validity beyond the last day of original bid validity plus 56 days, etc.
- Performance Security: Pursuant to GCC Clause 13.3, the successful Bidder is required to provide the Performance Security in the form contained in this section of these bidding documents and in the amount specified in accordance with the SCC.

The Purchaser and Supplier will use the following additional forms during Contract implementation to formalize or certify important Contract events: (i) the Installation and Operational Acceptance Certificates; and (ii) the various Change Order forms. These and the procedures for their use during performance of the Contract are included in the bidding documents for the information of Bidders.

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NOTIFICATION OF INTENTION TO AWARD

[*This Notification of Intention to Award shall be sent to each Bidder that submitted a Bid.*]

[*Send this Notification to the Bidder's Authorized Representative named in the Bidder Information Form*]

For the attention of Bidder's Authorized Representative
Name: *[insert Authorized Representative's name]*
Address: *[insert Authorized Representative's Address]*
Telephone/Fax numbers: *[insert Authorized Representative's telephone/fax numbers]*
Email Address: *[insert Authorized Representative's email address]*

[IMPORTANT: insert the date that this Notification is transmitted to all participating Bidders. The Notification must be sent to all Bidders simultaneously. This means on the same date and as close to the same time as possible.]

DATE OF TRANSMISSION: This Notification is sent by: [*email/fax*] on [*date*] (local time)

Notification of Intention to Award

[Purchaser]: *[insert the name of the Purchaser]*

Project: *[insert name of project]*

Contract title: *[insert the name of the contract]*

Country: *[insert country where RFB is issued]*

Loan No. /Credit No. / Grant No.: *[insert reference number for loan/credit/grant]*

RFB No: *[insert RFB reference number from Procurement Plan]*

This Notification of Intention to Award (Notification) notifies you of our decision to award the above contract. The transmission of this Notification begins the Standstill Period. During the Standstill Period you may:

a) request a debriefing in relation to the evaluation of your Bid, and/or

b) submit a Procurement-related Complaint in relation to the decision to award the contract.

1. The successful Bidder

Name:	[*insert name of successful Bidder*]
Address:	[*insert address of the successful Bidder*]

Contract price:	[*insert contract price of the successful Bidder*]
Total combined score:	[*insert the total combined score of the successful Bidder*]

2. Other Bidders *[INSTRUCTIONS: insert names of all Bidders that submitted a Bid. If the Bid's price was evaluated include the evaluated price as well as the Bid price as read out.]*

Name of Bidder	Technical Score (If applicable)	Bid price	Evaluated Bid Cost	Combined Score (if applicable)
[*insert name*]	[*insert Technical score*]	[*insert Bid price*]	[*insert evaluated cost*]	[*insert combined score*]
[*insert name*]	[*insert Technical score*]	[*insert Bid price*]	[*insert evaluated cost*]	[*insert combined score*]
[*insert name*]	[*insert Technical score*]	[*insert Bid price*]	[*insert evaluated cost*]	[*insert combined score*]
[*insert name*]	[*insert Technical score*]	[*insert Bid price*]	[*insert evaluated cost*]	[*insert combined score*]
[*insert name*]	[*insert Technical score*]	[*insert Bid price*]	[*insert evaluated cost*]	[*insert combined score*]

3. Reason/s why your Bid was unsuccessful [*Delete if the combined score already reveals the reason*]

[INSTRUCTIONS; State the reason/s why <u>this</u> Bidder's Bid was unsuccessful. Do NOT include: (a) a point by point comparison with another Bidder's Bid or (b) information that is marked confidential by the Bidder in its Bid.]

4. How to request a debriefing

DEADLINE: The deadline to request a debriefing expires at midnight on [*insert date*] (local time).

You may request a debriefing in relation to the results of the evaluation of your Bid. If you decide to request a debriefing your written request must be made within three (3) Business Days of receipt of this Notification of Intention to Award.

Provide the contract name, reference number, name of the Bidder, contact details; and address the request for debriefing as follows:

Attention: [*insert full name of person, if applicable*]

Title/position: [*insert title/position*]

Agency: [*insert name of Purchaser*]

Email address: [*insert email address*]

Fax number: [*insert fax number*] ***delete if not used***

If your request for a debriefing is received within the 3 Business Days deadline, we will provide the debriefing within five (5) Business Days of receipt of your request. If we are unable to provide the debriefing within this period, the Standstill Period shall be extended by five (5) Business Days after the date that the debriefing is provided. If this happens, we will notify you and confirm the date that the extended Standstill Period will end.

The debriefing may be in writing, by phone, video conference call or in person. We shall promptly advise you in writing how the debriefing will take place and confirm the date and time.

If the deadline to request a debriefing has expired, you may still request a debriefing. In this case, we will provide the debriefing as soon as practicable, and normally no later than fifteen (15) Business Days from the date of publication of the Contract Award Notice.

5. How to make a complaint

DEADLINE: The deadline for submitting a Procurement-related Complaint challenging the decision to award the contract expires on midnight, [*insert date*] (local time).

Provide the contract name, reference number, name of the Bidder, contact details; and address the Procurement-related Complaint as follows:

Attention: [*insert full name of person, if applicable*]

Title/position: [*insert title/position*]

Agency: [*insert name of Purchaser*]

Email address: [*insert email address*]

Fax number: [*insert fax number*] ***delete if not used***

At this point in the procurement process, you may submit a Procurement-related Complaint challenging the decision to award the contract. You do not need to have requested, or received, a debriefing before making this complaint. Your complaint must be submitted within the Standstill Period and received by us before the Standstill Period ends.

Further information:

For more information see the "Procurement Regulations for IPF Borrowers (Procurement Regulations) (Annex III)." You should read these provisions before preparing and submitting your complaint. In addition, the World Bank's Guidance "How to make a Procurement-related Complaint" provides a useful explanation of the process, as well as a sample letter of complaint.

In summary, there are four essential requirements:

1. You must be an 'interested party'. In this case, that means a Bidder who submitted a Bid in this procurement, and is the recipient of a Notification of Intention to Award.
2. The complaint can only challenge the decision to award the contract.

3. You must submit the complaint within the deadline stated above.
4. You must include, in your complaint, all of the information required by the Procurement Regulations (as described in Annex III).

6. Standstill Period

DEADLINE: The Standstill Period is due to end at midnight on [*insert date*] (local time).

The Standstill Period lasts ten (10) Business Days after the date of transmission of this Notification of Intention to Award.

The Standstill Period may be extended. This may happen where we are unable to provide a debriefing within the five (5) Business Day deadline. If this happens we will notify you of the extension.

If you have any questions regarding this Notification please do not hesitate to contact us.

On behalf of the Purchaser:

Signature: _____

Name: _____

Title/position: _____

Telephone: _____

Email: _____

BENEFICIAL OWNERSHIP DISCLOSURE FORM[1]

INSTRUCTIONS TO BIDDERS: DELETE THIS BOX ONCE YOU HAVE COMPLETED THE FORM

This Beneficial Ownership Disclosure Form ("Form") is to be completed by the successful Bidder. In case of joint venture, the Bidder must submit a separate Form for each member. The beneficial ownership information to be submitted in this Form shall be current as of the date of its submission.

For the purposes of this Form, a Beneficial Owner of a Bidder is any natural person who ultimately owns or controls the Bidder by meeting one or more of the following conditions:

- *directly or indirectly holding 25% or more of the shares*
- *directly or indirectly holding 25% or more of the voting rights*
- *directly or indirectly having the right to appoint a majority of the board of directors or equivalent governing body of the Bidder*

RFB No.: *[insert number of RFB process]*
Request for Bid No.: [*insert identification*]

To: **[*insert complete name of Purchaser*]**

In response to your request in the Letter of Acceptance *dated [insert date of letter of Acceptance]* to furnish additional information on beneficial ownership: *[select one option as applicable and delete the options that are not applicable]*

(i) we hereby provide the following beneficial ownership information.

Details of beneficial ownership

Identity of Beneficial Owner	Directly or indirectly holding 25% or more of the shares (Yes / No)	Directly or indirectly holding 25 % or more of the Voting Rights (Yes / No)	Directly or indirectly having the right to appoint a majority of the board of the directors or an equivalent governing body of the Bidder (Yes / No)
[include full name (last, middle, first), nationality, country of			

[1] Delete if not applicable

residence]			

OR

(ii) *We declare that there is no Beneficial Owner meeting one or more of the following conditions:*

- directly or indirectly holding 25% or more of the shares
- directly or indirectly holding 25% or more of the voting rights
- directly or indirectly having the right to appoint a majority of the board of directors or equivalent governing body of the Bidder

OR

(iii) We declare that we are unable to identify any Beneficial Owner meeting one or more of the following conditions. [If this option is selected, the Bidder shall provide explanation on why it is unable to identify any Beneficial Owner]

- directly or indirectly holding 25% or more of the shares
- directly or indirectly holding 25% or more of the voting rights
- directly or indirectly having the right to appoint a majority of the board of directors or equivalent governing body of the Bidder]"

Name of the Bidder: *[*insert complete name of the Bidder*]_____

Name of the person duly authorized to sign the Bid on behalf of the Bidder: **[*insert complete name of person duly authorized to sign the Bid*]_____

Title of the person signing the Bid: [*insert complete title of the person signing the Bid*]_____

Signature of the person named above: [*insert signature of person whose name and capacity are shown above*]_____

Date signed [*insert date of signing*] **day of** [*insert month*], [*insert year*]_____

[*] In the case of the Bid submitted by a Joint Venture specify the name of the Joint Venture as Bidder. In the event that the Bidder is a joint venture, each reference to "Bidder" in the Beneficial Ownership Disclosure Form (including this Introduction thereto) shall be read to refer to the joint venture member.

[**] Person signing the Bid shall have the power of attorney given by the Bidder. The power of attorney shall be attached with the Bid Schedules.

LETTER OF ACCEPTANCE

_____

To: _____

This is to notify you that your Bid dated _____ for execution of the _____ for the Contract Price in the aggregate of _____ _____, as corrected and modified in accordance with the Instructions to Bidders is hereby accepted by our Agency.

You are requested to furnish (i) the Performance Security within 28 days in accordance with the Conditions of Contract, using for that purpose one of the Performance Security Forms and (ii) the additional information on beneficial ownership in accordance with BDS ITB 50.1 within eight (8) Business days using the Beneficial Ownership Disclosure Form, included in Section X, - Contract Forms, of the Bidding Document.

[Choose one of the following statements:]

We accept that _____ ***[insert the name of Adjudicator proposed by the Bidder]*** be appointed as the Adjudicator[1].

[or]

We do not accept that _____***[insert the name of the Adjudicator proposed by the Bidder]*** be appointed as the Adjudicator, and by sending a copy of this Letter of Acceptance to _____***[insert name of the Appointing Authority]***, the Appointing Authority, we are hereby requesting such Authority to appoint the Adjudicator in accordance with ITB 52 and GCC 43.1.4[2].

Authorized Signature: _____

Name and Title of Signatory: _____

Name of Agency: _____

Attachment: Contract Agreement

---

[1] To be used only if the Supplier disagrees in the Bid with the Adjudicator proposed by the Purchaser in the Instructions to Bidders, and has accordingly offered another candidate.

[2] To be used only if the Supplier disagrees in the Bid with the Adjudicator proposed by the Purchaser in the ITB, has accordingly offered another candidate, and the Purchaser does not accept the counterproposal.

1. CONTRACT AGREEMENT

THIS CONTRACT AGREEMENT is made

the ***[insert: ordinal]*** day of ***[insert: month], [insert: year].***

BETWEEN

(1) ***[insert: Name of Purchaser],*** a ***[insert: description of type of legal entity, for example, an agency of the Ministry of . . .]*** of the Government of ***[insert: country of Purchaser],*** or corporation incorporated under the laws of ***[insert: country of Purchaser]*** and having its principal place of business at ***[insert: address of Purchaser]*** (hereinafter called "the Purchaser"), and

(2) ***[insert: name of Supplier],*** a corporation incorporated under the laws of ***[insert: country of Supplier]*** and having its principal place of business at ***[insert: address of Supplier]*** (hereinafter called "the Supplier").

WHEREAS the Purchaser desires to engage the Supplier to supply, install, achieve Operational Acceptance of, and support the following Information System ***[insert: brief description of the Information System]*** ("the System"), and the Supplier has agreed to such engagement upon and subject to the terms and conditions appearing below in this Contract Agreement.

NOW IT IS HEREBY AGREED as follows:

Article 1. Contract Documents	1.1 Contract Documents (Reference GCC Clause 1.1 (a) (ii)) The following documents shall constitute the Contract between the Purchaser and the Supplier, and each shall be read and construed as an integral part of the Contract:
	(a) This Contract Agreement and the Appendices attached to the Contract Agreement (b) Notification of Award (c) Special Conditions of Contract (d) General Conditions of Contract (e) Technical Requirements (including Implementation Schedule) (f) The Supplier's bid (Technical Part and Financial Part) and original Price Schedules (g) ***[Add here: any other documents e.g. 'JV Agreements if applicable]***
	1.2 Order of Precedence (Reference GCC Clause 2) In the event of any ambiguity or conflict between the Contract

		Documents listed above, the order of precedence shall be the order in which the Contract Documents are listed in Article 1.1 (Contract Documents) above, provided that Appendix 7 shall prevail over all provisions of the Contract Agreement and the other Appendices attached to the Contract Agreement and all the other Contract Documents listed in Article 1.1 above.
	1.3	Definitions (Reference GCC Clause 1) Capitalized words and phrases used in this Contract Agreement shall have the same meanings as are ascribed to them in the General Conditions of Contract.
Article 2. Contract Price and Terms of Payment	2.1	Contract Price (Reference GCC Clause 1.1(a)(viii) and GCC Clause 11) The Purchaser hereby agrees to pay to the Supplier the Contract Price in consideration of the performance by the Supplier of its obligations under the Contract. The Contract Price shall be the ***[insert: amount of INR in words], [insert: amount in figures],*** as specified in the Grand Summary Price Schedule. The Contract Price shall be understood to reflect the terms and conditions used in the specification of prices in the detailed price schedules, including the terms and conditions of the associated Incoterms, and the taxes, duties and related levies if and as identified.
Article 3. Effective Date for Determining Time for Operational Acceptance	3.1	Effective Date (Reference GCC Clause 1.1 (e) (ix)) The time allowed for supply, installation, and achieving Operational Acceptance of the System shall be determined from the date when all of the following conditions have been fulfilled: (a) This Contract Agreement has been duly executed for and on behalf of the Purchaser and the Supplier; (b) The Supplier has submitted to the Purchaser the performance security, in accordance with GCC Clause 13.3;
		(c) *[specify here: **any other conditions**.]* Each party shall use its best efforts to fulfill the above conditions for which it is responsible as soon as practicable.
	3.2	If the conditions listed under 3.1 are not fulfilled within two (2) months from the date of this Contract Agreement because of reasons not attributable to the Supplier, the parties shall discuss and agree on an equitable adjustment to the Contract Price and the Time for Achieving Operational Acceptance and/or other relevant conditions of the Contract.
Article 4. Appendixes	4.1	The Appendixes listed below shall be deemed to form an integral part of this Contract Agreement.

	4.2 Reference in the Contract to any Appendix shall mean the Appendixes listed below and attached to this Contract Agreement, and the Contract shall be read and construed accordingly.

APPENDIXES

Appendix 1. Supplier's Representative
Appendix 2. Adjudicator *[if there is no Adjudicator, state **"not applicable"**]*
Appendix 3. List of Approved Subcontractors
Appendix 4. Categories of Software
Appendix 5. Custom Materials
Appendix 6. Revised Price Schedules (if any)
Appendix 7. Minutes of Contract Finalization Discussions and Agreed-to Contract Amendments

IN WITNESS WHEREOF the Purchaser and the Supplier have caused this Agreement to be duly executed by their duly authorized representatives the day and year first above written.

For and on behalf of the Purchaser

Signed:

in the capacity of ***[insert: title or other appropriate designation]***

in the presence of

For and on behalf of the Supplier

Signed:

in the capacity of ***[insert: title or other appropriate designation]***

in the presence of

CONTRACT AGREEMENT

dated the ***[insert: number]*** day of ***[insert: month], [insert: year]***

BETWEEN

[insert: name of Purchaser], "the Purchaser"

and

[insert: name of Supplier], "the Supplier"

Appendix 1. Supplier's Representative

In accordance with GCC Clause 1.1 (b) (iv), the Supplier's Representative is:

Name: ***[insert: name and provide title and address further below, or state "to be nominated within fourteen (14) days of the Effective Date"]***

Title: ***[if appropriate, insert: title]***

In accordance with GCC Clause 4.3, the Supplier's addresses for notices under the Contract are:

Address of the Supplier's Representative: ***[as appropriate, insert: personal delivery, postal, cable, telegraph, telex, facsimile, electronic mail, and/or EDI addresses.]***

Fallback address of the Supplier: ***[as appropriate, insert: personal delivery, postal, cable, telegraph, telex, facsimile, electronic mail, and/or EDI addresses.]***

Appendix 2. Adjudicator

In accordance with GCC Clause 1.1 (b) (vi), the agreed-upon Adjudicator is:

Name: [***insert: name]***

Title: [***insert: title]***

Address: **[** ***insert: postal address]***

Telephone: [***insert: telephone]***

In accordance with GCC Clause 43.1.3, the agreed-upon fees and reimbursable expenses are:

Hourly Fees: ***[insert: hourly fees]***

Reimbursable Expenses: ***[list: reimbursables]***

Pursuant to GCC Clause 43.1.4, if at the time of Contract signing, agreement has not been reached between the Purchaser and the Supplier, an Adjudicator will be appointed by the Appointing Authority named in the SCC.

[Note: if ITB 52 provides for an Adjudicator from list provided by an institution, kindly state that 'the daily fee and reimbursable expenses payable to the Adjudicator will be governed by rules of ……. [name of the Institution]].

Appointment of Adjudicator

Suggested Draft of Letter of Appointment of Adjudicators

Sub:_____(Name of the Contract)

To

Name and address of the Adjudicator

1. We hereby confirm your appointment as adjudicator for the above contract to carry out the assignment specified in this Letter of Appointment.

2. For administrative purpose_____(*name of the officer representing the purchaser*) has been assigned to administer the assignment and to provide the Adjudicator with all relevant information needed to carry out the assignment on behalf of both the purchaser and the contractor. The services will be required during the period of contract for the information systems project (Name of the Contract)_____.

3. The Adjudicator shall visit the project site once in 3 (three) months till the completion of the IS work indicated above or as specifically requested by Purchaser/Supplier for the period upto the end of defects liability period with prior intimation to the Purchaser and the Supplier.. The duration of each visit shall ordinarily be for one day only. These durations are approximate and (*Name of the purchaser and Name of the Contractor*) may find it necessary to postpone or cancel the assignment and/or shorten or extend the duration.

4. The appointment will become effective upon confirmation of letter by you. The appointment of Adjudicator shall be liable for termination under a 30 (thirty) days written notice from the date of issue of the notice, if both Purchaser and the Supplier so desire. Also the appointment shall automatically stand terminated 14 days after the defect notice / correction period as stated in GCC/SCC Clause 29 of the Conditions of Contract is over.

5. The Adjudicator will be paid a fee of Rs._____(Rupees _____only) per each day of visit at the project site. The actual expenses for boarding and traveling in connection with the assignment will be reimbursed to the Adjudicator. The Adjudicator will submit a pre-receipted bill in triplicate to the purchaser indicating the date of the visit, fees for the visit and a proof in support of the actual expenditure incurred by him[only for items valued above Rs. 500 each] against boarding, lodging and traveling expenses after performing the visit on each occasion. The Purchaser will make the admissible payment (both the Purchaser's and the Supplier's share) to the Adjudicator within 30 days of the receipt of the bill. The Supplier's share on this account (half the paid amount) will be recovered by the Purchaser from the Supplier's bills against the IS work.

6. In accepting this assignment, the Adjudicator should understand and agree that he is responsible for any liabilities and costs arising out of risks associated with travel to an from the place of emergency repatriation, loss or damage to personal/professional effects

and property. The Adjudicator is advised to effect personal insurance cover in respect of such risks if he does not already have such cover in place. In this regard, the Adjudicator shall maintain appropriate medical, travel, accident and third-party liability insurance. The obligation under this paragraph will survive till termination of this appointment.

7. Procedures for resolution of disputes by the Adjudicator is described in the contract of _____(name of the contract) between the Purchaser and the Supplier vide clause GCC/SCC 43 of the Conditions of Contract. Your recommendation should be given in the format attached, within 28 days of receipt of a notification of dispute.

8. The Adjudicator will carry out the assignment in accordance with the highest standard of professional and ethical competence and integrity, having due regard to the nature and purpose of the assignment, and will conduct himself in a manner consistent herewith. After visiting the project site, the Adjudicator will discuss the matter with the Purchaser and if necessary with the Supplier before arriving at any decision.

9. The Adjudicator will agree that all knowledge and information not within the public domain, which may be acquired while carrying out this service shall be all time and for all purpose, regarded as strictly confidential and held in confidence, and shall not be directly or indirectly disclosed to any party whatsoever, except with the permission of the purchaser and the contractor. The Adjudicator's decision should be communicated in the form of a speaking order specifying the reasons.

10. The Adjudicator will agree that any manufacturing or construction firm with which he might be associated with, will not be eligible to participate in bidding for any goods or works resulting from or associated with the project of which this consulting assignment forms a part

Read and Agreed

Name of Adjudicator

Signature

Place:

Date:

Name of Purchaser

Signature of authorized representative of Purchaser

Name of the Supplier

Signature of authorized representative of Supplier

Attachment: Copy of contract document between the Purchaser and the Supplier and format for recommendation.

SUMMARY OF AJUDICATIOR'S RESPONSIBILITIES

The Adjudicator has the following principal responsibilities:

1. Visit the site periodically.

2. Keep abreast of job activities and developments.

3. Encourage the resolution of disputes by the parties.

4. When a dispute is referred to it, conduct a hearing (no legal presentation), complete its deliberations, and prepare a recommendations in a professional and timely manner (as per sample format)

Sample Format of Adjudicator's Recommendation

[Project Name]
Recommendation of Adjudicator

Dispute No. XX [*NAME OF DISPUTE*]

Hearing Date:_____

Dispute

Description of dispute. A one or two sentence summation of the dispute.

Supplier's Position

A short summation of the Supplier's position as understood by the Adjudicator.

Purchaser's Position

A short summation of the Purchaser's position as understood by the Adjudicator.

Recommendation

The Adjudicator's specific recommendation for settlement of the dispute. (*The recommended course is consistent with the explanation*).

Explanation

(*This section could also be called Considerations, Rationale, Findings, Discussion, and so on.*)

The Adjudicator's description of how each recommendation was reached.

Respectfully submitted,

Date : _____ _____

Date : _____ _____

Date : _____ _____

Appendix 3. List of Approved Subcontractors

The Purchaser has approved use of the following Subcontractors nominated by the Supplier for carrying out the item or component of the System indicated. Where more than one Subcontractor is listed, the Supplier is free to choose between them, but it must notify the Purchaser of its choice sufficiently in advance of the time when the subcontracted work needs to commence to give the Purchaser reasonable time for review. In accordance with GCC Clause 20.1, the Supplier is free to submit proposals for Subcontractors for additional items from time to time. No subcontracts shall be placed with any such Subcontractors for additional items until the Subcontractors have been approved in writing by the Purchaser and their names have been added to this list of Approved Subcontractors, subject to GCC Clause 20.3.

[specify: item, approved Subcontractors, and their place of registration that the Supplier proposed in the corresponding attachment to its bid and that the Purchaser approves that the Supplier engage during the performance of the Contract. Add additional pages as necessary.]

aa) Item	Approved Subcontractors	Place of Registration

Appendix 4. Categories of Software

The following table assigns each item of Software supplied and installed under the Contract to one of the three categories: (i) System Software, (ii) General-Purpose Software, or (iii) Application Software; and to one of the two categories: (i) Standard Software or (ii) Custom Software.

	(select one per item)			(select one per item)	
Software Item	System Software	General-Purpose Software	Application Software	Standard Software	Custom Software

Appendix 5. Custom Materials

The follow table specifies the Custom Materials the Supplier will provide under the Contract.

Custom Materials

Appendix 6. Revised Price Schedules

The attached Revised Price Schedules (if any) shall form part of this Contract Agreement and, where differences exist, shall supersede the Price Schedules contained in the Supplier's Bid. These Revised Price Schedules reflect any corrections or adjustments to the Supplier's bid price, pursuant to the ITB Clauses 32.3 and 41.2.

Appendix 7. Minutes of Contract Finalization Discussions and Agreed-to Contract Amendments

The attached Contract amendments (if any) shall form part of this Contract Agreement and, where differences exist, shall supersede the relevant clauses in the GCC, SCC, Technical Requirements, or other parts of this Contract as defined in GCC Clause 1.1 (a) (ii).

2. PERFORMANCE AND ADVANCE PAYMENT SECURITY FORMS

2.1 Performance Security Form (Bank Guarantee)

(Bank Guarantee)

[The bank, as requested by the successful Bidder, shall fill in this form in accordance with the instructions indicated]

[Guarantor letterhead or SWIFT identifier code]

_____

*[insert: **Bank's Name, and Address of Issuing Branch or Office**]*

Beneficiary: [*insert: **Name and Address of Purchaser**]*
Date: [*insert: **date**]*
PERFORMANCE GUARANTEE No.: [*insert: **Performance Guarantee Number**]*

Guarantor: [*Insert name and address of place of issue, unless indicated in the letterhead*

We have been informed that on *[insert: **date of award**]* you awarded Contract No. *[insert: **Contract number**]* for *[insert: **title and/or brief description of the Contract**]* (hereinafter called "the Contract") to *[insert: **complete name of Supplier which in the case of a joint venture shall be in the name of the joint venture**]* (hereinafter called "the Applicant"). Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is required.

At the request of the Applicant, we as Guarantor hereby irrevocably undertake to pay you any sum(s) not exceeding *[insert: **amount(s)**[1] **in figures and words**]* such sum being payable in the types and proportions of currencies which the Contract Price is payable upon receipt by us of the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its obligation(s) under the contract without the Beneficiary needing to prove or to show grounds or reasons for their demand or the sum specified therein.

This guarantee is subject to the Uniform Rules for Demand Guarantees, (URDG) 2010 Revision, ICC Publication No. 758, except that the supporting statement under 15 (a) is hereby excluded.

_____

[Signature(s)]

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

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[1] The bank shall insert the amount specified and denominated in the SCC for GCC Clauses 13.3.1 and 13.3.4 respectively in INR

2.2 Advance Payment Security (Bank Guarantee)

(Bank Guarantee)

_____

[Guarantor letterhead or SWIFT identifier code]

Beneficiary: [*insert: **Name and Address of Purchaser]***
RFB No. and Title: [insert number and title of bidding process]
Date: [***insert date of issue]***

ADVANCE PAYMENT GUARANTEE No.: [*insert: **Advance Payment Guarantee Number]***

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that on *[insert: **date of award]*** you awarded Contract No. *[insert: **Contract number]*** for *[insert: **title and/or brief description of the Contract]*** (hereinafter called "the Contract") to *[insert: **complete name of Supplier, which in the case of a joint venture shall be the name of the joint venture]*** (hereinafter called "the Applicant").

Furthermore, we understand that, according to the conditions of the Contract, an advance payment in the sum of ***[insert: amount in numbers and words in INR of the advance payment]*** is to be made to the Supplier against an advance payment guarantee.

At the request of the Applicant, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of *[insert amount in figures]* (_____) *[insert amount in words]*[1] upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating either that the Applicant:

(a) has used the advance payment for purposes other than toward delivery of Goods; or

(b) has failed to repay the advance payment in accordance with the Contract conditions, specifying the amount which the Applicant has failed to repay.

A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary's bank stating that the advance payment referred to above has been credited to the Applicant on its account number *[insert number]* at [*insert name and address of Applicant's bank]*.

---

[1] The Guarantor shall insert an amount representing the amount of the advance payment and denominated in INR

The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Applicant as specified in copies of interim statements or payment certificates which shall be presented to us. This guarantee shall expire, at the latest, upon our receipt of a copy of the interim payment certificate indicating that ninety (90) percent of the Accepted Contract Amount, has been certified for payment, or on the *[insert day]* day of *[insert month]*, *[insert year]*[1], whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No.758, except that the supporting statement under Article 15(a) is hereby excluded.

_____

[signature(s)]

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

[1] Insert the expected expiration date of the Time for Completion. The Purchaser should note that in the event of an extension of the time for completion of the Contract, the Purchaser would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Purchaser might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months] [one year], in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."

3. INSTALLATION AND ACCEPTANCE CERTIFICATES

3.1 Installation Certificate

Date: ***[insert: date]***

Loan/Credit Number: ***[insert: loan or credit number from RFB]***

RFB: ***[insert: title and number of RFB]***

Contract: ***[insert: name and number of Contract]***

To: [***insert: name and address of Supplier]***

Dear Sir or Madam:

Pursuant to GCC Clause 26 (Installation of the System) of the Contract entered into between yourselves and the ***[insert: name of Purchaser]*** (hereinafter the "Purchaser") dated ***[insert: date of Contract],*** relating to the ***[insert: brief description of the Information System],*** we hereby notify you that the System (or a Subsystem or major component thereof) was deemed to have been correctly installed on the date specified below.

1. Description of the System (or relevant Subsystem or major component: [***insert: description]***
2. Date of Installation: [***insert: date]***

Notwithstanding the above, you are required to complete the outstanding items listed in the attachment to this certificate as soon as practicable. This letter shall not relieve you of your obligation to achieve Operational Acceptance of the System in accordance with the Contract nor of your obligations during the Warranty Period.

For and on behalf of the Purchaser

Signed:

Date:

in the capacity of: [***state: "Project Manager" or state the title of a higher-level authority in the Purchaser's organization]***

3.2 Operational Acceptance Certificate

Date: ***[insert: date]***

Loan/Credit Number: ***[insert: loan or credit number from RFB]***

RFB: ***[insert: title and number of RFB]***

Contract: ***[insert: name of System or Subsystem and number of Contract]***

To: [***insert: name and address of Supplier]***

Dear Sir or Madam:

Pursuant to GCC Clause 27 (Commissioning and Operational Acceptance) of the Contract entered into between yourselves and the ***[insert: name of Purchaser]*** (hereinafter the "Purchaser") dated ***[insert: date of Contract],*** relating to the ***[insert: brief description of the Information System],*** we hereby notify you the System (or the Subsystem or major component identified below) successfully completed the Operational Acceptance Tests specified in the Contract. In accordance with the terms of the Contract, the Purchaser hereby takes over the System (or the Subsystem or major component identified below), together with the responsibility for care and custody and the risk of loss thereof on the date mentioned below.

1. Description of the System (or Subsystem or major component): [***insert: description]***
2. Date of Operational Acceptance: [***insert: date]***

This letter shall not relieve you of your remaining performance obligations under the Contract nor of your obligations during the Warranty Period.

For and on behalf of the Purchaser

Signed:

Date:

in the capacity of: [***state: "Project Manager" or higher-level authority in the Purchaser's organization]***

4. CHANGE ORDER PROCEDURES AND FORMS

Date: ***[insert: date]***

Loan/Credit Number: ***[insert: loan or credit number from RFB]***

RFB: ***[insert: title and number of RFB]***

Contract: ***[insert: name or System or Subsystem and number of Contract]***

General

This section provides samples of procedures and forms for carrying out changes to the System during the performance of the Contract in accordance with GCC Clause 39 (Changes to the System) of the Contract.

Change Order Log

The Supplier shall keep an up-to-date Change Order Log to show the current status of Requests for Change and Change Orders authorized or pending. Changes shall be entered regularly in the Change Order Log to ensure that the log is kept up-to-date. The Supplier shall attach a copy of the current Change Order Log in the monthly progress report to be submitted to the Purchaser.

References to Changes

(1) Request for Change Proposals (including Application for Change Proposals) shall be serially numbered CR- X-nnn.
(2) Change Estimate Proposals shall be numbered CN- X-nnn.
(3) Estimate Acceptances shall be numbered CA- X-nnn.
(4) Change Proposals shall be numbered CP- X-nnn.
(5) Change Orders shall be numbered CO- X-nnn.

On all forms, the numbering shall be determined by the original CR-nnn.

Note: (a) Change Requests issued from the Purchaser's Home Office and the site representatives of the Purchaser shall have the following respective references:

Home Office	CR-H-nnn
Site	CR-S-nnn

(b) The above number "nnn" is the same for a Change Request Proposal, a Change Estimate Proposal, an Estimate Acceptance, a Change Proposal and a Change Order

Annexes

4.1 Request for Change Proposal Form
4.2 Change Estimate Proposal Form
4.3 Estimate Acceptance Form
4.4 Change Proposal Form
4.5 Change Order Form
4.6 Pending Agreement Change Order Form
4.7 Application for Change Proposal Form

4.1 Request for Change Proposal Form

(Purchaser's Letterhead)

Date: ***[insert: date]***

Loan/Credit Number: ***[insert: loan or credit number from RFB]***

RFB: ***[insert: title and number of RFB]***

Contract: ***[insert: name of System or Subsystem or number of Contract]***

To: [***insert: name of Supplier and address]***

Attention: [***insert: name and title]***

Dear Sir or Madam:

With reference to the above-referenced Contract, you are requested to prepare and submit a Change Proposal for the Change noted below in accordance with the following instructions within ***[insert: number]*** days of the date of this letter.

1. Title of Change: [***insert: title]***
2. Request for Change No./Rev.: [***insert: number]***
3. Originator of Change: [***select Purchaser / Supplier (by Application for Change Proposal No….*** *[insert:* ***number of proposals]), and add: name of originator]***
4. Brief Description of Change: [***insert: description]***
5. System (or Subsystem or major component affected by requested Change): [***insert: description]***
6. Technical documents and/or drawings for the request of Change:

   Document or Drawing No. Description
7. Detailed conditions or special requirements of the requested Change: [***insert: description]***
8. Procedures to be followed:

   (a) Your Change Proposal will have to show what effect the requested Change will have on the Contract Price.

   (b) Your Change Proposal shall explain the time it will take to complete the requested Change and the impact, if any, it will have on the date when Operational Acceptance of the entire System agreed in the Contract.

   (c) If you believe implementation of the requested Change will have a negative impact on the quality, operability, or integrity of the System, please provide a detailed explanation, including other approaches that might achieve the same impact as the requested Change.

   (d) You should also indicate what impact the Change will have on the number and mix of staff needed by the Supplier to perform the Contract.

(e) You shall not proceed with the execution of work related to the requested Change until we have accepted and confirmed the impact it will have on the Contract Price and the Implementation Schedule in writing.

9. As next step, please respond using the Change Estimate Proposal form, indicating how much it will cost you to prepare a concrete Change Proposal that will describe the proposed approach for implementing the Change, all its elements, and will also address the points in paragraph 8 above pursuant to GCC Clause 39.2.1. Your Change Estimate Proposal should contain a first approximation of the proposed approach, and implications for schedule and cost, of the Change.

For and on behalf of the Purchaser

Signed:

Date:

in the capacity of: [***state: "Project Manager" or higher-level authority in the Purchaser's organization]***

4.2 Change Estimate Proposal Form

(Supplier's Letterhead)

Date: ***[insert: date]***

Loan/Credit Number: ***[insert: loan or credit number from RFB]***

RFB: ***[insert: title and number of RFB]***

Contract: ***[insert: name of System or Subsystem and number of Contract]***

To: [***insert: name of Purchaser and address]***

Attention: [***insert: name and title]***

Dear Sir or Madam:

With reference to your Request for Change Proposal, we are pleased to notify you of the approximate cost of preparing the below-referenced Change in accordance with GCC Clause 39.2.1 of the Contract. We acknowledge that your agreement to the cost of preparing the Change Proposal, in accordance with GCC Clause 39.2.2, is required before we proceed to prepare the actual Change Proposal including a detailed estimate of the cost of implementing the Change itself.

1. Title of Change: [***insert: title]***
2. Request for Change No./Rev.: [***insert: number]***
3. Brief Description of Change (including proposed implementation approach): [***insert: description***
4. Schedule Impact of Change (initial estimate): [***insert: description]***
5. Initial Cost Estimate for Implementing the Change: [*insert:* ***initial cost estimate****]*
6. Cost for Preparation of Change Proposal: [***insert: cost in the currencies of the Contract],*** as detailed below in the breakdown of prices, rates, and quantities.

For and on behalf of the Supplier

Signed:

Date:

in the capacity of: [***state: "Supplier's Representative" or other higher-level authority in the Supplier's organization]***

4.3 Estimate Acceptance Form

(Purchaser's Letterhead)

Date: ***[insert: date]***

Loan/Credit Number: ***[insert: loan or credit number from RFB]***

RFB: ***[insert: title and number of RFB]***

Contract: ***[insert: name of System or Subsystem and number of Contract]***

To: [***insert: name of Supplier and address]***

Attention: **[** ***insert: name and title]***

Dear Sir or Madam:

We hereby accept your Change Estimate and agree that you should proceed with the preparation of a formal Change Proposal.

1. Title of Change: [***insert: title]***
2. Request for Change No./Rev.: [***insert: request number / revision]***
3. Change Estimate Proposal No./Rev.: [***insert: proposal number / revision]***
4. Estimate Acceptance No./Rev.: [***insert: estimate number / revision]***
5. Brief Description of Change: [***insert: description]***
6. Other Terms and Conditions:

   In the event that we decide not to order the Change referenced above, you shall be entitled to compensation for the cost of preparing the Change Proposal up to the amount estimated for this purpose in the Change Estimate Proposal, in accordance with GCC Clause 39 of the General Conditions of Contract.

For and on behalf of the Purchaser

Signed:

Date:

in the capacity of: [***state: "Project Manager" or higher-level authority in the Purchaser's organization]***

4.4 Change Proposal Form

(Supplier's Letterhead)

Date: ***[insert: date]***

Loan/Credit Number: ***[insert: loan or credit number from RFB]***

RFB: ***[insert: title and number of RFB]***

Contract: ***[insert: name of System or Subsystem and number of Contract]***

To: [***insert: name of Purchaser and address]***

Attention: [***insert: name and title]***

Dear Sir or Madam:

In response to your Request for Change Proposal No. ***[insert: number],*** we hereby submit our proposal as follows:

1. Title of Change: [***insert: name]***
2. Change Proposal No./Rev.: [***insert: proposal number/revision]***
3. Originator of Change: [***select: Purchaser / Supplier; and add: name]***
4. Brief Description of Change: [***insert: description]***
5. Reasons for Change: [***insert: reason]***
6. The System Subsystem, major component, or equipment that will be affected by the requested Change: [***insert: description]***
7. Technical documents and/or drawings for the requested Change:

   Document or Drawing No. Description
8. Estimate of the increase/decrease to the Contract Price resulting from the proposed Change: [***insert: amount in currencies of Contract],*** as detailed below in the breakdown of prices, rates, and quantities.

   Total lump sum cost of the Change:

   Cost to prepare this Change Proposal (i.e., the amount payable if the Change is not accepted, limited as provided by GCC Clause 39.2.6):
9. Additional Time for Achieving Operational Acceptance required due to the Change: [***insert: amount in days / weeks]***
10. Effect on the Functional Guarantees: [***insert: description]***
11. Effect on the other terms and conditions of the Contract: ***[insert: description]***
12. Validity of this Proposal: for a period of [***insert: number]*** days after receipt of this Proposal by the Purchaser
13. Procedures to be followed:

(a) You are requested to notify us of your acceptance, comments, or rejection of this detailed Change Proposal within ***[insert: number]*** days from your receipt of this Proposal.

(b) The amount of any increase and/or decrease shall be taken into account in the adjustment of the Contract Price.

For and on behalf of the Supplier

Signed:

Date:

in the capacity of: [***state: "Supplier's Representative" or other higher-level authority in the Supplier's organization]***

4.5 Change Order Form

(Purchaser's Letterhead)

Date: ***[insert: date]***

Loan/Credit Number: ***[insert: loan or credit number from RFB]***

RFB: ***[insert: title and number of RFB]***

Contract: ***[insert: name of System or Subsystem and number of Contract]***

To: [***insert: name of Supplier and address]***

Attention: [***insert: name and title]***

Dear Sir or Madam:

We hereby approve the Change Order for the work specified in Change Proposal No. ***[insert: number***], and agree to adjust the Contract Price, Time for Completion, and/or other conditions of the Contract in accordance with GCC Clause 39 of the Contract.

1. Title of Change: [***insert: name]***
2. Request for Change No./Rev.: [***insert: request number / revision]***
3. Change Order No./Rev.: [***insert: order number / revision]***
4. Originator of Change: [***select: Purchaser / Supplier; and add: name]***
5. Authorized Price for the Change:

   Ref. No.: [***insert: number]*** Date: [***insert: date]***

   [insert: amount in INR]
6. Adjustment of Time for Achieving Operational Acceptance: [***insert: amount and description of adjustment]***
7. Other effects, if any: [***state: "none" or insert description]***

For and on behalf of the Purchaser

Signed:

Date:

in the capacity of: [***state: "Project Manager" or higher-level authority in the Purchaser's organization]***

For and on behalf of the Supplier

Signed:

Date:

in the capacity of: [***state "Supplier's Representative" or higher-level authority in the Supplier's organization]***

4.6 Pending Agreement Change Order Form

(Purchaser's Letterhead)

Date: *[**insert: date**]*

Loan/Credit Number: *[**insert: loan or credit number from RFB**]*

RFB: *[insert**: title and number of RFB**]*

Contract: *[insert: **name of System or Sub-system and number of Contract**]*

To: [***insert: name of Supplier and address]***
Attention: [***insert: name and title***]

Dear Sir or Madam:

We instruct you to carry out the work in the Change Order detailed below in accordance with GCC Clause 39 of the Contract.

1. Title of Change: [***insert: name]***
2. Purchaser's Request for Change No./Rev.: [***insert: request number / revision]***, dated: [***insert: date]***
3. Supplier's Change Proposal No./Rev.: *[**insert: number / revision**], dated: [**insert: date**]*
4. Brief Description of Change: [***insert: description]***
5. The System, Sub-system or equipment component affected by the requested Change: [***insert: description]***
6. Technical documents and/or Reference Drawings for the requested Change:

Document or Drawing No.	Description

7. Adjustment of Time for Achieving Operational Acceptance: [***insert: amount and description of adjustment]***
8. Other effects, if any: [***state: "none**"; or **insert: description]***
9. Other terms and conditions: [***state: "none**"; or **insert: terms and conditions***

For and on behalf of the Purchaser

Signed: _____

Date: _____

in the capacity of: [*state: "**Project Manager**"; or higher-level authority in the Purchaser's organization]*

4.7 Application for Change Proposal Form

(Supplier's Letterhead)

Date: ***[insert: date]***

Loan/Credit Number: ***[insert: loan or credit number from RFB]***

RFB: ***[insert: title and number of RFB]***

Contract: ***[insert: name of System or Subsystem and number of Contract]***

To: [***insert: name of Purchaser and address]***

Attention: [***insert: name and title]***

Dear Sir or Madam:

We hereby propose that the below-mentioned work be treated as a Change to the System.

1. Title of Change: [***insert: name]***
2. Application for Change Proposal No./Rev.: [***insert: number / revision]*** dated: [***insert: date]***
3. Brief Description of Change: [***insert: description]***
4. Reasons for Change: ***[insert: description]***
5. Order of Magnitude Estimation: ***[insert: amount in currencies of the Contract]***
6. Schedule Impact of Change: ***[insert: description]***
7. Effect on Functional Guarantees, if any: ***[insert: description]***
8. Appendix: [***insert: titles (if any); otherwise state "none"]***

For and on behalf of the Supplier

Signed:

Date:

in the capacity of: [***state: "Supplier's Representative" or higher-level authority in the Supplier's organization]***

5. FORM OF TRUST RECEIPT FOR INFORMATION SYSTEMS AND ASSOCIATED GOODS RECEIVED

We M/s (Supplier's Name) .....having our Principal place of business at .....having been awarded a Contract No.....……..... Dated.....…….....for (Contract Name) .....…….....by (Name of Purchaser) .....

We do hereby acknowledge the receipt of the Information Systems and associated goods as are fully described and mentioned under Documents of Title/RR/LR etc. and in the schedule annexed hereto, which shall form an integral part of this receipt as "Trustee" of ..... *(Name of Purchaser)*. The aforesaid materials etc. so received by us shall be exclusively used in the successful performance of the aforesaid Contract and for no other purpose whatsoever. We undertake not to create any charge, lien or encumbrance over the aforesaid information systems, materials and documents etc., in favour of any other person/ institution(s)/ Banks.

For M/s .....
(Supplier's Name)

Dated: ..... (AUTHORISED SIGNATORY)

Place: ..... SEAL OF COMPANY

6. FORM OF INDEMNITY BOND TO BE EXECUTED BY THE SUPPLIER FOR THE INFORMATION SYSTEM HANDED OVER BY THE PURCHASER FOR PERFORMANCE OF ITS CONTRACT

(Entire Information System Consignment in one Lot)

(On non-Judicial stamp paper of appropriate value)

INDEMNITY BOND

THIS INDEMNITY BOND is made this ..... Day of ..... 20 ..... by .....*(Supplier's legal Name)* a Company registered under the Companies Act, 1956/Partnership-firm/Proprietary concern having its Registered Office at ..... (Hereinafter called as 'Supplier' or "Obligor" which expression shall include its successors and permitted assigns) in favour of .....*(Name of Purchaser)*, a Company incorporated under the Companies Act, 1956 having its Registered Office at ..... and its project at .....(hereinafter called "....."...{*Abbreviated name of the Purchaser*} which expression shall include its successors and assigns) :

WHEREAS .....@..... has awarded to the Supplier a Contract for .....vide its Notification of Award/Contract No.....dated..... and its Amendment No. ..... and Amendment No. ..... *(Applicable when amendments have been issued)* hereinafter called the Contract) in terms of which .....@..... is required to hand over Information Systems, Subsystem, Material, Documents to the Supplier for execution of the Contract.

And WHEREAS by virtue of Clause No..... of the said Contract, the Supplier is required to execute an Indemnity Bond in favour of .....@.....for the Information System, Subsystem, Material and Documents handed over to it by .....@..... for the purpose of performance of the Contract/ Erection portion of the contract (hereinafter called the "Equipments")

AND THEREFORE, This Indemnity Bond witnesseth as follows:

1. That in consideration of various Equipments as mentioned in the Contract, handed over to the Supplier for the purpose of performance of the Contract, the Supplier hereby undertakes to indemnify and shall keep .....@..... indemnified, for the full value of the Equipments. The Supplier hereby acknowledges actual receipt of the Information System etc. as pre despatch title documents handed over to the Supplier as detailed in the Schedule appended hereto. The Supplier shall hold such Information System etc. in trust as a "Trustee" for and on behalf of .....@.....

2. That the Supplier is obliged and shall remain absolutely responsible for the safe transit/protection and custody of the Information System at .....@..... Project site against all risks whatsoever till the ecumenist are duly used/erected in accordance with the terms of the Contract and the systems duly erected and commissioned in

accordance with the terms of the Contract is taken over by .....@..... The Supplier undertakes to keep .....@..... harmless against any loss or damage that may be caused to the equipments.

3. The Supplier undertakes that the Equipments shall be used exclusively for the performance/execution of the Contract strictly in accordance with its terms and conditions and no part of the Information System shall be utilized for any other work of purpose whatsoever. It is clearly understood by the Supplier that non-observance of the obligations under this Indemnity Bond by the Supplier shall inter-alia constitute a criminal breach of trust on the part of the Supplier for all intents and purpose including legal/penal consequences.

4. That .....@..... is and shall remain the exclusive owner of the equipments free from all encumbrances, charges or liens of any kind, whatsoever. The equipments shall at all times be open to inspection and checking by the Project Manager or other employees/agents authorized by him in this regard. Further, ...@..... shall always be free at all times to take possession of the Equipments in whatever form the Equipments may be, if in its opinion, the equipments are likely to be endangered, mis-utilized or converted to uses other than those specified in the Contract, by any acts or omission or commission on the part of the Supplier or any other person or on account of any reason whatsoever and the Supplier binds himself and undertakes to comply with the directions of demand of .....@..... to return the equipments without any demur or reservation.

5. That this Indemnity Bond is irrevocable. If at any time any loss or damage occurs to the equipments or the same or any part thereof is mis-utilized in any manner whatsoever, than the Supplier hereby agrees that the decision of the project manager of .....@..... as to assessment of loss or damage to the Information System shall be final and binding on the Supplier. The Supplier binds itself and undertakes to replace the lost and/or damaged Equipments at its own cost and/or shall pay the amount of loss to .....@..... without any demur, reservation or protest. This is without prejudice to any other right or remedy that may be available to .....@..... against the Supplier under the Contract and under this Indemnity Bond.

6. NOW THE CONDITION of this Bond is that if the Supplier shall duly and punctually comply with the terms and conditions of this Bond to the satisfaction of ……. @ …… then the above shall be void, but otherwise, it shall remain in full force and virtue.

@ Fill in abbreviated name of the Purchaser

IN WITNES WHEREOF, the Supplier has hereunto set its hand through its authorized representative under the common seal of the Company, the day, month and year first above mentioned.

SCHEDULE 1

Particulars of the Information System, Subsystem, Material, Documents handed over	Quantity	Particulars of Despatch title Documents	Signature of Attorney in token of receipt

For and on behalf of

.....

(Supplier's Name)

WITNESS

1. 1. Signature .....
   2. Name .....
   3. Address .....

2. 1. Signature .....
   2. Name .....
   3. Address .....

Signature .....

Name .....

Designation of .....
Authorized representative *

(Common Seal)
(In case of Company)

---

* Indemnity Bonds are to be executed by the authorized person and (i) in case of contracting Company under common seal of the Company or (ii) having the Power of Attorney issued under common seal of the Company with authority to execute Indemnity Bond, (iii) in case of (ii), the original Power of Attorney if it is specifically for this Contract or photostat copy of the Power of Attorney if it is General Power of Attorney and such documents should be attached to Indemnity Bond.

11. FORM OF AUTHORISATION LETTER

(NAME OF PURCHASER)

(PROJECT .....)

REF. NO. :

DATE :

To,

M/s *(Supplier's Name)* .....

Ref: Contract No..... Dated.....
For ..... Awarded by *(Name of Purchaser)*

Dear Sirs,

Kindly refer to Contract No..... Dated ..... For .....*(Contract Name)* You are hereby authorized on behalf of .....*(Name of Purchaser)* having its registered office at ..... And its Project at ..... to take physical delivery of materials/equipments covered under despatch Document/ Consignment Note No..... * ..... Dated ..... and as detailed in the enclosed Schedule for the sole purpose of successful performance of the aforesaid contract and for no other purposes, whatsoever.

(Signature of Project Authority)

(Designation: .....

Date .....

ENCL: as above

---

* Mention LR/RR No.

SCHEDULE OF MATERIAL/INFORMATION SYSTEM COVERED UNDER DESPATCH TITLE DOCUMENT (RR NO./LR NO.....)

Sl. No.	Contract Name	NOA No./ Contract Agreement No.	Description of Materials/ Equipments	Spec. No.	Qty.	Value	Remarks

(SIGNATURE OF THE PROJECT AUTHORITY)

(DESIGNATION) .....

(DATE) .....