

1. Introduction

Satish Dhawan Space Centre (SDSC-SHAR), Indian Space Research Organization (ISRO), Department of Space, Government of India, Andhra Pradesh 524124, Nellore District, Andhra Pradesh State, India (hereinafter referred to as “Department”) intends to provide Fire Protection Systems for New Launch Complex facilities located at Kulasekarapattnam, Tiruchendur Taluk, Tutucorin District, Tamil Nadu.

Quotations are invited from the interested bidders for Design, Supply, Installation, Commissioning and Testing of Analogue Addressable type Fire Detection and Alarm System and Integration of all FACPs to Centralized Monitoring Station in SSLV Launch Complex facilities located at Kulasekarapattnam, Tiruchendur Taluk, Tutucorin District, Tamil Nadu.

The execution period reckoned from receipt of purchase order to final acceptance is 8 months. As this Project is of national interest and to be completed within the stipulated period, the Bidders are advised to take utmost care in studying the quantum & nature of work and plan adequate & suitable resources to execute the purchase order within the stipulated period while submitting the bids.

2. Geographical Location and Climatic Conditions:

Sl. No	Description	Details
a)	Owner / Purchaser	ISRO, SDSC, SHAR
	Contact Details	Purchase & Stores officer, Phone no.: 08623-22 6082 Email Id: psovalf@shar.gov.in
b)	Project Title	Establishment of Fire Protection System for New Launch Complex Facilities located at Kulasekarapattnam, Tiruchendur Taluk, Tutucorin District, Tamil Nadu.
c)	Plant Location	SSLV Launch Complex, SDSC SHAR (ISRO) Madhavankurichi, Tiruchendur Taluk, Tutucorin District, Tamil Nadu.
e)	Transportation	
	Nearest Railway Station	Tiruchendur Railway station is located at 25 km from project site.
	Road	ECR-SH 176 Tiruchendur-Tutucorin-Kanyakumari(TTK)Road
	Air port	Nearest airport is Tutucorin
	Sea port	Nearest seaports is Tutucorin.
f)	Ambient air temperature	
	(a) Annual Mean Minimum Temperature	23°C
	(b) Annual Mean Maximum Temperature	29°C
g)	Relative humidity	
	a) Maximum	100 % (consider 95 % for design)
	b) Minimum	15 %
h)	Rainfall	
	Annual average rainfall in a year	570 mm to 740 mm

	Period of rainfall	During North East Monsoon rains
j)	Seismic data	
	Zone	Zone II as per IS 1893 – 2002
k)	Latitude, Longitude	8°21'30'' N , 78°01'05' E
l)	Atmosphere	Saline and corrosive.

3. System Details and Proposals:

The scope of work shall include the following:

- Design, Supply, Installation, Commissioning, Integration and Testing of Addressable analogue type Fire Detection & Alarm System (FDA) for the facilities of SSLV Launch Complex to a common control room through SCADA software as mentioned in the document. The detailed requirement and specification of the FDA system are given in below sections of the document.

4. Surveillance Inspection by Department:

- The Department, at their own discretion and on surveillance basis, shall have the right to depute their representative(s) to perform material receipt/ in-process/ final pre-delivery inspection at any phase for ascertaining the material and workmanship of the system. The Contractor shall obtain the necessary permission for the Department's representatives to visit the Sub-contractor's/ Sub-vendor's premise.
- The participation and approval by the Department's representatives during the inspection/ review shall not absolve the Contractor of their responsibility to comply with the specification/ obligation of the Contract.

5. Insurance:

- It is the responsibility of the contractor for safe supply, delivery, handling, installation and commissioning of the individual fire detection and alarm system and its sub system components. If a component / device damaged / failed during testing and installation, it is the responsibility of the contractor to replace the device on his own expense.
- During onsite activities at the Department's premise, the Contractor shall provide the following insurances:
 - a) Workmen compensation policy (Personnel insurance) for the Contractor's/ Sub-contractor's personnel under all categories covering death& accident.
 - b) Third-party business liability insurance to cover damage caused by fault of the Contractor to the Department and/ or third parties. The liability shall be Rs 20 Lakhs for bodily injury applicable to each person and Rs 1 Crore for tangible assets. The Department shall indemnify the Contractor against any further claims.
 - c) Notwithstanding the aforesaid insurance, the Contractor shall be responsible for all the materials/ services including all losses & uninsured losses until final acceptance of fire hydrant system for launch complex facilities by the Department.

This specification document is organized in four sections as follows.

Section – A General Terms and Conditions

Section – B Specification of Fire Detection & Alarm System for SSLV Launch Complex Facilities

Section – C Technical Specification for Fire Detection & Alarm System for SSLV Launch Complex Facilities

Section – D Formats to be filled by bidder

Section – A
General Terms and Conditions

1.0 TERMS AND CONDITIONS FOR BIDS:

- 1.1 The tenderer shall furnish point-wise confirmation for the technical specifications given in the enquiry. However, change of specifications/ deviations (if any) shall be brought out in the offer as deviation summary with detailed justification. Exclusions, if any from scope of supply shall be clearly indicated in the offer.
- 1.2 Tenderer shall quote the prices on “FOR-SSLV Launch Complex Project Site”.
- 1.3 The overall landed cost to SSLV Launch Complex Project Site will be taken as the basis towards finalization of the purchase order.
- 1.4 The Bidders shall indicate clearly the delivery/time period for supplying the items to SSLV Launch Complex Project Site.

2.0 PROPOSAL DOCUMENT:

- 2.1 Bidder shall sign & stamp each page of the tender document as token of his acceptance and submit the same along with his offer.
- 2.2 Proposal documents shall remain the property of SDSC SHAR and shall not be used for any another purpose without the consent of SDSC SHAR.
- 2.3 The proposal shall be completely filled in all respects and shall be tendered together with requisite information. Any offer incomplete in any particulars is liable to be rejected.
- 2.4 The Proposals shall be submitted on-line before the time limit for bid submission specified in the Letter Inviting Bid.
- 2.5 The Proposal will be opened on the date and on the time specified in the Letter Inviting Bid or as soon thereafter as convenient. Proposal not received in time will not be considered.
- 2.6 Bidders shall set their quotations in firm figures and without variations/additions in the terms of the Proposal documents.
- 2.7 **AMBIGUITY:** Should there be any ambiguity or doubt as to the meaning of any of the tender clause/condition or if any further information is required, the matter shall be immediately brought to the notice of Head, Purchase & Stores of SDSC SHAR in writing.

3.0 BID EVALUATION:

- 3.1 During evaluation, SDSC SHAR may request bidder for any clarification on the bid or additional documents.
- 3.2 **Bidder must provide the point-by-point compliance to the technical specifications along with deviations. The tender will be rejected, if the deviations are not acceptable to the department.**
- 3.3 The time schedule for completion is given in the proposal document. Bidder is required to confirm the completion period unconditionally.
- 3.4 SDSC SHAR reserves the right to accept a bid other than a lowest and to accept or reject any bid in full or part without assigning any reasons. Such decisions by SDSC SHAR shall bear no liability whatsoever consequent upon such decision.
- 3.5 The bidder, whose bid is accepted by SDSC SHAR, shall be issued a Letter Of Intent (LOI) /Purchase Order (PO) to proceed with the work. Bidder shall confirm acceptance by returning a signed copy of the LOI/PO.

4.0) Taxes:

Taxes

As per the Notification No. 6/2018-Central Tax (Rate) dt:25.01.2018 A(ix) S.No.243A as amended by Notification No.24/2018-Central Tax (Rate) Dt: 31.12.2018 b(viii) S.No.243B issued by Ministry of Finance (Dept. of Revenue) & Government of Andhra Pradesh, Revenue (Commercial Taxes-II) Department, G.O.MS.No. 93 Dated: 19-02-2018 A(ix) S.No.243A and as per the Notification No. 7/2018-Integrated Tax (Rate) dt:25.01.2018 A(ix) S.No.243A as amended by Notification No.25/2018-Integrated Tax (Rate) Dt: 31.12.2018 b(viii) S.No.243B

issued by Ministry of Finance (Dept. of Revenue), SDSC SHAR is eligible to avail GST/IGST @5% for the procurements related to Scientific and technical instruments, apparatus, equipment, accessories, parts, components, spares, tools, mock ups and modules, raw material and consumables required for launch vehicles and satellites and payload. we will issue only End User Certificate for availing GST/IGST @5%. Hence, kindly confirm your acceptance and submit your price quotation accordingly.

Income Tax

Income tax at the prevailing rate as applicable and if applicable from time to time shall be deducted from the supplier's bills as per Income Tax Act and a certificate issued (TDS Certificate).

5.0 Terms of Payments

5.1 After receipt at SLC Site, Thoothukudi District

70 % of supply cost along with 100 % tax portion upon receipt of items are in good conditions and satisfactory inspection of materials and acceptance on pro rata basis at SSLV Project Office, Survey No.260-3C, Madhavankurichi Village-628206, opp. To Koodal Nagar, Tiruchendur Taluk, Thoothukudi Dist., Tamil Nadu.

5.2 After Installation at SLC Site, Thoothukudi District

30 % of supply cost and 100 % of installation cost along with its tax portion upon successful completion of installation, Testing and commissioning of systems on pro rata basis at SSLV Project Office, Survey No.260-3C, Madhavankurichi Village-628206, opp. To Koodal Nagar, Tiruchendur Taluk, Thoothukudi Dist., Tamil Nadu.

6.0 Warranty:

The vendor shall provide at least 1-year warranty for the items supplied from the date of completion of installation, commissioning and testing.

7.0 Make in India Clause

For this procurement, provisions contained in Public Procurement (Preference to Make in India), Order 2017 issued by Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce & Industries vide letter No. P-45021/2/2017-PP(BE-II) dated 16.09.2020 & directives related shall be followed. Accordingly, you are requested to indicate the percentage of local content in the material, clearly mentioning the details of location(s) at which value addition is made in line with clause 9 to O.M dated 16.09.2020 referred above. It may be noted that Local Content shall not include services such as Transportation, Insurance, Installation, Commissioning, Training and after sales service support like AMC/CMC etc.

8.0 Liquidated Damages (LD):

The delivery schedule indicated in this purchase order is deemed to be the essence of the contract. You should complete the scope of PO within the delivery schedule mentioned in PO. If you fail to do so Liquidated Damages will be levied at the rate of 0.5% of the value per week or part there of subject to a maximum of 10% of the order value. LD will be levied entire scope of work including erection & commissioning.

9.0 Security Deposit cum Performance Bank Guarantee:

Successful Bidder Shall Submit Performance Security towards Security Deposit cum Performance Bank Guarantee for 3% of the order value (or as notified by Govt. Of India/ISRO from time to time) in single instalment through Insurance Surety Bonds/ Account Payee Demand Draft/ Bankers Cheque/ Fixed Deposit Receipts or Bank Guarantee (including e-Bank Guarantee) from a Commercial bank executed on Rs.200/- non-judicial stamp paper or payment online in an acceptable form within 10 days after receipt of Purchase Order valid till completion total contractual obligation (i.e., supply period + warranty period + 60 days). This will not carry any interest and shall be returned to you after successful completion of contractual obligations. In case of non-performance/poor performance the Bank Guarantee shall be forfeited. If BG not submitted within specified period, this order is liable to be

cancelled. In case of non-submission of Combined BG within the stipulated period, this order shall be liable to be cancelled in addition to any other action against you.

10.0 Validity of Offer:

The validity of the offers / tenders should be 120 days from the date of opening of the tenders. Tenders shorter than offer validity mentioned above will not be considered for evaluation.

As all the scope of work is inter-related, Bidder has to quote for all the items listed in the Technical specification (Section-B & Section-C), Schedule of quantities without which the offer will not be considered.

11.0 Force majeure

If at any time during the continuance of the order the performance in whole or part by either party of any obligation under this order shall be prevented or delayed by reasons of any war, hostility, acts of public enemy, civil commotion, sabotage, fire, floods, lightening, epidemic, quarantine restrictions, strikes, go-slow, lockout or acts of God, notice of which is given either party to the other within 21 days from the date of occurrence thereof, neither party shall be reasons of such eventually be entitled to terminate this order nor shall either party have any claim for damages against the other in respect of such non-performance or delay in performance.

12.0 Arbitration

The Contract shall be interpreted, construed and governed by the Laws in India. In the event of any dispute/s, difference/s or claim/s arising out of or relating to the interpretation and application of the Work Package Order(s), such dispute/s or difference/s or claim/s shall be settled amicably by mutual consultations of the good Office of the respective Parties and recognizing their mutual interests attempt to reach a solution satisfactory to both the parties. If such a resolution is not possible, within 30 days from the date of receipt of written notice of the existence of such dispute/s, then the unresolved dispute/s or difference/s or claim/s shall be referred to the Sole Arbitrator appointed by the Parties by mutual consent in accordance with the rules and procedures of Arbitration and Conciliation Act 1996 as amended from time to time. The arbitration shall be conducted in Bengaluru in the Arbitration and Conciliation Centre - Bengaluru (Domestic and International) as per its rules and regulations. The expenses for the Arbitration shall be shared equally or as may be determined by the Arbitrator. The considered and written decision of the Arbitrator shall be final and binding between the Parties. The applicable language for Arbitration shall be English only.

13.0 Secrecy:

The party shall take all reasonable steps necessary to ensure that all persons employed in connection with the Purchase Order have full knowledge of the Official Secrets Act and the regulations framed there under. Any breach of the aforesaid conditions shall entitle the purchaser to cancel the Purchase Order and if necessary to go ahead with the purchase at the risk and cost of the party in addition to any other penal action it may take at its discretion.

14.0 Compliance with security requirements:

The party shall strictly comply with the security rules & regulations of the purchaser. The party shall complete the required formalities including verification of character & antecedents, of the persons engaged or deployed by him, through police or any other authority.

15.0 Confidentiality and proprietary right protection:

The party shall be obliged to preserve the confidentiality of the proprietary information received, exchanged between each other during the period of the Contract. Technical documentation published and/or claimed for a patent shall be effected by both the parties only on mutual decisions and approval of both the parties, during the existence of this agreement.

16.0 Applicable Law and Jurisdiction

The laws of India shall govern this purchase order for the time being in force. The Courts of Andhra Pradesh, India only shall have jurisdiction to be with and decide any legal matters or disputes what so ever arising out of the purchase order

17.0 Instructions to the Bidder

In case of any conflict/contradiction, the documents shall prevail over one another in the following order:

- For all commercial, contractual and general conditions, Notice Inviting Tender (NIT).
- Any contradiction either between various parts of document or in the content of the document itself shall be a matter of clarification to be obtained by the bidder from the purchaser. The purchaser's decision shall be final and binding.
- The Bidder shall study the specification, visit the site and satisfy himself thoroughly regarding the workability of the proposed FDA System and shall take full responsibility for best quality of material and workmanship, guaranteed operation and smooth performance of all Fire Detection System systems/ equipment & accessories and integrated system as a whole. This technical specification is only guidance to the bidder and hence all the items necessary for safe and satisfactory operation, guaranteed and reliable performance of proposed Fire detection and alarm system shall be included in his offer though these might not have been specifically mentioned in the technical specification / schedule of quantities.
- The Bidder shall satisfy the department that he possesses the necessary technical experience for design & execution and has at his disposal suitable facilities and crew to ensure that his work shall be of the best quality and workmanship. Necessary particulars in this regard shall be furnished with the offer.
- Successful Bidder shall obtain approval from department for selecting sub- suppliers and makes for any of the equipment/ parts.
- An unpriced copy of the order on the sub-suppliers comprising all detailed specifications and the quantities of the material ordered, bill of material including necessary drawings thereof, shall be sent to department immediately after such order is placed by the successful Bidder.
- The purchaser reserves the right of selecting the make/model of equipment, wherever necessary and the supplier shall agree to supply equipment of particular make/model without any cost implication to purchaser.
- Any loss of plant and equipment after receipt at site due to imprudence, negligence and unsuitable treatment and handling on part of the contractor shall have to be replaced by the contractor at his cost.
- Any existing services or other property if damaged or demolished during the course of execution either willfully or negligently, shall be re-done/ re-erected by the bidder at his own cost.
- The bidder shall take all precaution against damages due to rains or other natural causes and no liability shall lie with the purchaser for any loss on this account.
- The approval of drawings and/or inspection by Department and/ or their authorized representative shall not absolve or relieve the bidder from any of his obligation under this contract and they shall be wholly and solely responsible for the satisfactory operation and guaranteed performance of the systems and equipment forming part of the system.
- This specification is issued for procurement from indigenous sources only. However, no foreign exchange or import license for importing equipment, components, raw materials or spares will be arranged for or provided by the purchaser. In case the equipment offered involves expenditure in foreign exchange, same shall be arranged and borne by the Bidder.

- Any equipment / material which in any way fails to meet the requirements of the specification will be rejected by the purchaser and such equipment / material shall not be used under the contract. The successful Bidder will be required to promptly furnish new material at his cost without hampering the overall schedule of commissioning of the project.
- Any changes or difficulties which might be encountered during the execution of work or any other problems due to local conditions which are not anticipated / included in the tender document shall fall under full obligations of the successful Bidder. No claim on account of the same and for any ambiguity in any respect will be entertained after placement of order by Purchaser.
- The equipment covered in this specification shall conform to the technical specification, general requirements and relevant latest standards / codes in respect of dimensions, size, material, manufacture, inspection, testing, painting, packaging, etc. as applicable.
- All material, dimensional standards, tolerances, process of manufacture and testing procedures shall be in accordance with the latest revision of the standard codes specified in this Tendering Specification. In case where such suitable standards are not mentioned, any acceptable Indian/International Standards shall be adopted with prior approval of purchaser.
- All equipment supplied shall allow access to facilitate connecting up, inspection, maintenance and repair and shall operate satisfactorily under such variations of load, pressure and climatic conditions as may occur during working.
- All documents, instructions, name plates etc. shall be written in English language. All weights, dimensions and units shall be in metric system.
- The Bidder shall be responsible for completeness of supplies, work and services to make the system complete and proper operation. Any equipment and material not specifically mentioned in this tendering specification, but required for safe, smooth and efficient operation and guaranteed performance of the Fire Detection and Alarm System shall be deemed to be included under the scope of work of the Bidder. No claim shall be entertained on this account after placement of Order.
- Purchaser reserves the right to reject all or any of the offer fully or partly without assigning any reasons, whatsoever.
- The Bidder shall quote for earliest delivery of the equipment / supplies as well as earliest completion of the entire work.
- The Bidder shall submit the Quality Assurance Plan containing the overall quality management and procedures which he proposes to follow for performing the work during various phases of execution.
- At the time of award of contract, the detailed Quality Assurance Plan to be followed for execution of the contract will be mutually discussed and agreed to.
- The sub-contracts for part works can be given for successful completion of project with consensus of purchaser. The total sub-contract of the project is not allowed.
- Materials used and equipment supplied shall be new (manufactured after Jan-2025) and the best of their kind and shall comply with the latest revisions of all relevant standards. Manufacturer's certificates shall be furnished by the successful Bidder for the material used.
- As a minimum requirement, the contractor shall identify a resident engineer / site supervisor to coordinate with department and ensure the quality job completion in specified time.
- Fire Detection and Alarm System shall be erected, tested and commissioned as per the standards laid down in this specification. Detailed instructions on such aspects as are not indicated herein shall be as per the latest Indian standards/NFPA/other equivalent standards .

- Bidder shall clearly indicate the deviations taken from the Tender documents/specifications separately in his offer.

18.0 Terms & Conditions to Bidder

- Compliance statement to the technical specification given is to be duly signed & stamped and submitted as a part of acceptance.
- Deviations, if any, w.r.t technical and commercial terms & conditions shall be clearly brought out and deviation list to be added. If deviations are not listed separately, it will be presumed that the bidder is adhering to all the technical specifications and commercial terms & conditions given in this document.
- Transportation & Transit Insurance are fully in the scope of vendor and the same shall be borne by the party.

19.0 Packing and Forwarding clause

- Dispatch Instruction given in the contract shall be strictly followed. Failure to comply with the instructions may result in delay in payment apart from imposing any other charges as may be deemed fit.
- No Analogue Addressable Fire Detection and Alarm System shall be delivered without obtaining dispatch clearance from SDSC SHAR.
- Party has to pack all the items in sea worthy packing to protect against damage / corrosion / entry of termites/ants.
- The supplier shall be responsible for transporting all Analogue Addressable Fire Detection and Alarm System to site, unloading, safe storage and movement within the work site.
- The Analogue Addressable Fire Detection and Alarm System received at site shall be stored at a place assigned for this purpose.
- The contractor shall arrange to have all the material suitably transported as per the standard.
- All packing and transport charges, transit handling costs, transit risk coverage and transport fees of agents employed at the place of delivery or elsewhere, shall be deemed included in the price to be paid to the Supplier.

20.0 Specific Requirements

Bidder should demonstrate the interlinking of all FDA panels and its sub systems as per the specification in this document to a common control room in SHAR as a proof of concept for evaluation. If vendor fails to demonstrate will leads to rejection.

The delivery and erection of all equipment shall be so scheduled that it shall be possible to commission within due date from the date of award of P.O. in order to match with the overall commissioning schedule of Project. The delivery date shall be quoted from the date of issue of P.O. taking into account the time for approval of technical data sheet and specification of bought out items by the Purchaser. The successful Bidder shall guarantee the material delivery and commissioning dates. Progress report shall be submitted by the successful Bidder at regular intervals on a format prescribed by the purchaser giving the status of approval of drawings, ordering position of equipment and other materials ordered, manufactured, fabricated, delivered and erected.

After placement of purchase order, the following documents shall be submitted for approval.

- i. A bar-chart/PERT network for all activities such as design, approval, procurement, manufacturing, assembly, testing, inspection, delivery, installation, commissioning etc. shall be submitted within two weeks of placement of order.

- ii. Detailed specification, schematic wiring drawing, Bill of materials, with makes and model number of Analogue Addressable Fire Detection and Alarm System incorporating all the required details against the features indicated in the order specification.
- iii. Certified detailed technical literatures of all components highlighting all the features of the items finally selected.
- iv. Reliability and Quality Assurance plans followed for Analogue Addressable Fire Detection and Alarm System.
- v. Installation drawings indicating Detectors, Manual call points, Hooter, Aspirating system piping locations along with panel. FACP location along with loop drawings and termination details with device address and instructions for Analogue Addressable Fire Detection and Alarm System.
- vi. Overall configuration drawings inclusive of communication interface for centralized monitoring.
- vii. Detailed Test and Evaluation Plan
- viii. Copies of Purchase order for bought out items blanking price part (One copy only).
- ix. Any other relevant data / information.

21.0 Safety

- a. The party/supplier shall adhere safety regulations enforced by safety officer in SDSC SHAR. During testing any abrupt/accidental release of clean agent or release of clean agent due to the damage to cylinder during erection phase the responsibility solely holds with party/supplier.
- b. The party/supplier shall ensure that the items supplied are absolutely safe for use in the stipulated site conditions and they shall confirm to applicable safety norms and standards.
- c. The party/supplier shall take enough care to ensure the progress of work without any material and personnel damage. It is the sole responsibility of contractor to ensure all safety norms to his personnel during transportation between work spot and Department/party stores, work in prefabricated area, in storage shed and in yard. Department will not hold responsibility to any mishap to contractor personnel.
- d. All equipment shall be complete with approved safety devices wherever a potential hazard exists and with provision for safe access of personnel to and around equipment for operational and maintenance functions. The design shall include not only those usually furnished with elements of machinery but also the additional covers, stairways, ladders, steel structural platforms for operator's control panels handrails, partitions etc. which are necessary for safe operation of the plant.
- e. All danger and caution notice boards shall be both in English, Hindi and local languages.
- f. When the work is carried out at night with prior approval of purchaser or in the obscure day light, adequate arrangements for flood lighting in the working area shall be made by Bidder at his own cost and got approved by the Purchaser.
- g. The safety posters/regulation for prevention of accidents shall be displayed by the Bidder at appropriate places. Notices and warning signs shall be displayed for all sources of dangers.

- h. All electrical drives and equipment must be equipped with safety devices. The safety provisions shall conform to the recognized standards, safety codes and statutory regulations.
- i. All safety measures as required to be adopted as per the statutory regulations and the safety rules of the plant shall be strictly followed by the Bidder during the execution of the Contract.
- j. Adequate number of first aid boxes as defined in the State Factories Rules shall be provided and maintained at work sites.
- k. The vendor shall ensure that the item supplied by them are absolutely safe for use in the stipulated work environment & confirm to applicable safety norms and standards.

22.0 General Conditions:

- Kulasekarapatnam is located in eastern coast of Tamil Nadu along the East Coast Road (ECR): Thoothukudi-Tiruchendur-Kanyakumari Road (TTK road of SH176) at Padukkapathu and Pallakurichi Village of Sathankulam Taluk and Madhavankurichi of Tiruchendur Taluk of Thoothukudi District, Tamil Nadu. The work site is located at 25 km from Tiruchendur Railway station and 45 km from Tuticorin Railway Station. It is bounded by Bay of Bengal in south and small villages (Madhavankurichi, Thandavankadu, Narayanapuram, Amrapuram, Padukkapathu and Elluvillai) in other direction. Vendors have to arrange own transport for his personnel to and from the work spot.
- The parties should be in a position to complete the entire work in 8 (Eight) months from the date of placing the order.
- The representative of the department shall have access and right to inspect the work at all times, during the course of installation and commissioning. The party without delay and without any extra cost shall rectify any work, which is found faulty. The department has no obligation to discover defects in the work performed and it shall be the sole responsibility of the party (CONTRACTOR) to ensure such completed work is defect free and meets the technical specifications / requirements.
- The contractor shall not employ persons below 18 years of age and no female labour shall be employed in dark hours. The contractor shall pay to each person, wages not less than minimum wages specified as per the labour laws.
- Conveyance for contractor personnel from and to work spot has to be arranged by the contractor.
- Department shall decide the hours of work on the site and the contractor shall adhere to it. Department reserves the right to extend working hours beyond office hours including holidays based upon the progress of work to meet the work schedule/target.
- Contractor shall take enough care to ensure to progress the work without any material and personnel damage. It is the sole responsibility of contractor to ensure all safety norms to his personnel during transportation between work spot and Department/Contractor stores, and work in prefabrication area, in storage shed and in yard. Department will not hold responsibility to any mishap to the contractor personnel.
- Department's permission shall be obtained by contractor for establishing shed/ office with an under taking for construction of shed with non- flammable material and for demolition of the same after completion of work.
- Machinery, Electricity and water required for the activity is in scope of the bidder. All machinery required for above work like drilling, cutting, etc., has to be arranged by contractor along with necessary Junction boxes, fuses, cables, hoses, etc.,
- The contractor shall take prior approval from the Department for awarding sub-contract for ~~full/partial~~ works in the contract and the payment for the sub-contractor shall be the responsibility of the contractor.

- The Department reserves the right to pay the sub-contractor directly from the running bills in case if the contractor fails to pay his sub-contractor in the interest of completion of work.
- Contractor has to give an undertaking that they will comply with prevailing safety norms at site put forth by Department. Safety officer shall have full access to contractor's storage shed. Office at any time for inspection.
- The quantity arrived is indicative only. The party shall give undertaking to hold the same quoted unit prices for the additional quantities of 10% of order quantities if site requirement calls for.

23.0 Delivery scheduling:

- Eight (8) months from the date of placement of order.
- Delivery Schedule: Split-up of overall schedule as follows

Sl. No	Description of activity	Time line
1.	Release of purchase order	T ₀
2.	Submission of Specification & Technical data sheets of all supply items for Fire Detection and Alarm System	T ₁ = T ₀ + 2 weeks
3.	Approval of above specifications & Technical data sheets by department	T ₂ = T ₁ + 2 weeks
4.	The materials to be supplied as per tendering specifications	T ₃ = T ₂ + 2 months
5.	Commissioning of Fire Detection and Alarm System including Mobilization of teams, Completion of Erection & Testing of Fire Detection and Alarm system shall be completed within 5 months after Confirmation of Site Clearance given by Department based on building readiness	T ₄ = Confirmation of Site Clearance given by department + 5 Months based on building readiness

- Progress review meetings once in a week will be conducted for monitoring the status of works and the contractor's site representative need to attend with all relevant inputs.
- As all works are inter-related, splitting of order is not possible. Hence, bidder shall quote for all items of this tender without which offer will not be considered.
- Purchaser reserves right to cancel the order at any stage if the performance of the contractor is not satisfactory and the contractor is not following stipulated Safety/security norms.
- Contractor has to arrange accommodation for their employment's outside the project site.
- The contractor shall clearly indicate deviations if any from indent specifications in the offer; otherwise, to accept all the terms and conditions put by the department.
- Item wise quantity format is only for indicative quantities of various items to be executed. Payment will be made by department for the actual quantity executed on Pro-Rata basis.

24.0 Transportation & Material Handling:

The contractor shall arrange and ensure:

- Machinery (grinding, cutting, screw drivers, hammers, programming kits, etc)
- Man power (skilled, semi-skilled and helpers / labour)
- Tools and tackles and measuring instruments (Testing kits, programming kits etc)
- Access ladders and scaffolding
- Testing consumables and accessories (smoke generator kit, hot air blower etc)

- Relevant derricks, hoists and fixtures for leading and positioning equipment's on designated foundations including alignment tools.
- Transportation to and from work spot, boarding and lodging of contract staff
- Movement of FDA systems and its sub systems

25.0 Evaluation of Machinery and Manpower and Consumables:

Machinery and manpower shall be subjected to technical evaluation by the Department Engineer to ascertain their complete suitability / performance for the jobs described above. Based on this evaluation clearance shall be given for taking up the actual job. Work shall be treated as commenced only when the actual welding work is done and as per various technical conditions detailed in this contract.

26.0 Medical Assistance:

While executing this service contract work, if any of the workers engaged by contract agency is injured, contract agency has to take care of medical treatment.

27.0 Accommodation:

- Accommodation will not provided by SDSC SHAR to contractors / suppliers at work site.
- Supplier shall make their own arrangement for accommodation, transportation and canteen facility for all his staff, technicians, labour and worker.

28.0 Record of Documents, Drawings, Operation and Maintenance Manuals

a. Along with offer:

- Signed and stamped copies of tender specification as a proof of compliance to all the requirements of the document.
- Catalogues, technical data sheets of detectors, Aspiration system elements, FACP, MCP, fault isolator, Hooter, FRLS cable etc
- Proof of valid approval / listing / (listing No., validity etc.), of detectors, FDA Panel, VESDA / System Sensor and accessories including control panel.
- There shall be minimum track record of 3 years of trouble-free operation for minimum 3 major Installations in India for installed Fire Alarm System /devices and panels being offered. Details of such installations shall be sent along with offer.

b. After placement of order the following documents are to be submitted for approval:

- A bar-chart/PERT network for all activities such as design, approval, procurement, manufacturing, assembly, testing, inspection, delivery, installation, commissioning etc. shall be submitted within two weeks of placement of order.
- Detailed specification, schematic wiring drawing, Bill of materials, with makes and model number of Analogue Addressable Fire Detection and Alarm System incorporating all the required details against the features indicated in the order specification.
- Certified detailed technical literatures of all components highlighting all the features of the items finally selected.
- Reliability and Quality Assurance plans followed for Analogue Addressable Fire Detection and Alarm System.

- v. Installation drawings indicating Detectors, Manual call points, Hooter, Aspirating system piping locations along with panel. FACP location along with loop drawings and termination details with device address and instructions for Analogue Addressable Fire Detection and Alarm System.
- vi. Overall configuration drawings inclusive of communication interface for centralized monitoring.
- vii. Detailed Test and Evaluation Plan
- viii. Copies of Purchase order for bought out items blanking price part (One copy only).
- ix. Any other relevant data / information.

c. After completion of work during commissioning:

- i. Three(3) sets of Operation and Maintenance Manuals, these manuals should indicate weekly, monthly and yearly maintenance schedule and other instructions necessary for safe maintenance of Analogue Addressable Fire Detection and Alarm System. Spare parts catalogue, engineering data sheets and part lists covering each item including bought out components along with all drawing shall be compiled and submitted.
- ii. Supplier shall submit three hard copies and one soft copy on CD/DVD / pen drive of all the approved drawings incorporating any modification/changes made during the execution of CONTRACT. All these drawing shall be marked as 'As Built'.
- iii. Design calculation and analysis data of aspirating system.
- iv. Complete Inspection / test results (3 copies).
- v. Inspection certificate and guarantee or warranty certificate(3 copies).
- vi. After commissioning the system all system Keys, passwords and software required for programming devices shall be handed over to department in order to ensure smooth functioning of the system.
- vii. After completion of commissioning activities, training to be given for the facility personnel at site.
- viii. Laminated boards on the layout of the system to be fixed at appropriate locations consisting of Instructions for operation of the Analogue Addressable Fire Detection and Alarm System, as bult drawing of Analogue Addressable Fire Detection and Alarm System.
- ix. Test and Evaluation documents.
- x. Manufacturer's conformity certificates/ test certificates for all FDA system components like Detectors, FDA panels, Aspirating system etc.
- xi. Submission of the drawing and manuals shall be a precondition for releasing of any final payment due to supplier.

29.0 Risk and Cost Purchase:

Timely delivery of goods/services is of prime importance and where the vendor fails to fulfil their contractual obligations, the Procuring Entity shall be entitled, and it shall be lawful on his part, to procure Stores and/ or services similar to those ordered/cancelled, with such terms and conditions and in such manner as it deems fit at the "Risk and Cost" of the Contractor and the Contractor shall be liable to the Procuring Entity for the extra expenditure, if any, incurred or accrued by the Procuring Entity for arranging such procurement. However, the Contractor shall not be entitled to benefits if any, from such procurements.

Prior to resorting to risk purchase the Purchaser shall consider impact of the default by the contractor, proper notice to the contractor to invoke risk purchase clause and method of recovering the additional amount spent by the Purchaser. The cost as per risk purchase exercise may be recovered from the Earnest Money Deposit/ Security Deposit/ Performance Security of the supplier and/or bills submitted by the supplier against the same contract or any other contract. GST will be charged / levied on Risk Purchase as per the provision of GST Act Rule thereon.

Risk purchase action may be initiated under any of the following conditions.

- a. When the supplier fails to deliver the materials even after extending the delivery period.
- b. When the supplier fails to respond to purchases request for supply of the materials and fails to provide any genuine and bonafide reason for the delay in supply.
- c. When the supplier breaches any of the terms and conditions of the supply order/ contract and as a result fails to execute the order satisfactorily.

30.0 Bidder Minimum Qualification Criteria

The following are the minimum essential criteria to further validate/accept the bid. Vendor is requested to provide all the necessary supporting documents. If any deviation/non-compliances/lack of supporting document bid shall be summarily rejected.

Sl. No	Description	Vendor Compliance with Supporting Documents
1.	The Bidder should be Company/Society/Firm registered in India since last 3 (three) years or more. Company Profile along with documentary evidence of services offered and all relevant enclosures to be submitted.	
2.	Bidder has to provide OEM authorization for the items(fire alarm detection panel and its associated systems and aspiration type detection systems) to be supplied.	
3.	<p>During Last three years ending 31.03.2025, the bidders should have successfully completed either of the following works involved in supply, installation, testing and commissioning of Fire Detection System as per the specifications in Section-B and Section – C.</p> <p>One Similar completed work not less than Rs. 120 Lakhs, Two Similar completed works each not less than Rs. 80 Lakhs each, Three similar completed works each not less than Rs. 35 Lakhs each.</p>	
4.	The Bidder's average annual financial turnover shall be not less than Rs. 80 lakhs per year during last three financial years ending with 31.03.2025.	
5.	Copies of relevant purchase / work / contract agreement along with corresponding completion certificates issued by competent authority shall be submitted in this regard.	
6.	Vendor should have a minimum track record of 3 years of trouble-free operation for minimum 3 major Installations in India for installed Fire Alarm System / devices and panels being offered. FDA integration with open protocol through SCADA system shall be submitted. Details of such installations shall be sent along with offer.	
7.	Audited balance sheet & Profit & Loss A/c is to be submitted (or) Copy of the IT return filed / audited last 3 years financial statements for Financial years ending with 31.03.2025.	
8.	Vendor must undertake supply, erection, testing and commissioning of Fire Detection and Alarm system as per the specifications and requirements indicated in the specification. Splitting of order is not permissible.	

Sl. No	Description	Vendor Compliance with Supporting Documents
9.	Vendor is confirming and accepting to demonstrate the interlinking/integrating of FDA system and its sub system to a common control room with WINCC SCADA software with open protocol as a proof of concept before price bid opening. Vendor who are failing to demonstrate will leads to rejection. Vendor has to demonstrate the proof concept before committee within 10 days from the date of intimation. Party should bring the required panels, devices, software and other required subsystem for demonstration.	
10.	Latest solvency certificate for the current financial year 2025-26 from any Nationalized/Scheduled bank shall be submitted for a value of Rs.25 lakhs.	
11.	Technical compliance to the specifications shall be vetted by the bidder.	
12.	The firm must provide a self-declaration that they have not been black listed by any Govt. Department/PSU.	
13.	Three (3) years of CAMC charges should be quoted separately on yearly basis along with price bid format and not in Technical bid. CAMC charges shall not be considered for arriving at L1 and there is no commitment at the time of placement of order for procurement of stores. However, the charges quoted for CAMC shall be open for negotiation and valid until warranty period. A separate PO for CAMC, if opted by the Purchaser, shall be released on the successful supplier ahead of warranty period. Hence, mandatory to quote for CAMC.	
14.	The supplier shall mention his team details, equipment's / machineries, facilities if any.	

Note:

- Technical proposal of the bidder, which is not able to substantiate/satisfy the claims made by it with respect to the technical requirements laid down in this tender specification, will be summarily rejected.
- Offers of those bidders taking full scope of the as per the tender specification only will be considered.

Signature of Authorized Person with Seal

31.0 Bidder Evaluation Criteria. The broad guidelines for evaluation of Bids will be as follows:

Sl. No	Description	Vendor Compliance
1.	In respect of Two-Bid system, the technical Bids forwarded by the Bidders will be evaluated by the Department with reference to the tendering specifications. The compliance of Technical Bids would be determined on the basis of the parameters specified in the tendering specifications. The Price Bids of only those Bidders will be opened whose Technical Bids would clear the technical evaluation.	
2.	During evaluation, SDSC SHAR may request Bidder for any clarification on the bid, additional documents . If required vendor will be inspected at his work site or previous work site to evaluate the capability and genuineness of the documents document submitted. If any deviation found, it will leads to rejection.	
3.	Bidder must provide the point-by-point compliance to the technical specifications and only the approved makes as given in the technical specifications are accepted. The tender will be rejected if the approved makes are not met.	
4.	Performance of Bidder on similar nature of works executed/ under execution shall be taken into consideration before selecting the Bidder for opening his price bid.	
5.	The time schedule for completion is given in the Proposal document. Bidder is required to confirm the completion period unconditionally.	
6.	SDSC SHAR reserves the right to reject any bid if technically/commercially not meeting the requirement/terms & conditions. Such decisions by the SDSC SHAR shall bear no liability whatsoever consequent upon such decision.	
7.	Total price inclusive of all taxes, duties, shall be considered for arriving L1 (Overall Lowest) and awarding the contract as per the procedures.	
8.	If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price will prevail and the total price will be corrected. If there is a discrepancy between words and figures, the amount in words will prevail for calculation of price.	
9.	As all the items within tender specification are inter dependent, splitting of the order is not possible. Hence Overall lowest bidder will be considered.	
10.	Vendor is confirming and accepting to demonstrate the interlinking/integrating of FDA system and its sub system to a common control room with WINCC SCADA software with open protocol as a proof of concept before price bid opening. Vendor who are failing to demonstrate will leads to rejection. Vendor has to demonstrate the proof concept before committee within 10 days from the date of intimation. Party should bring the required panels, devices, software and other required subsystem for demonstration.	
11.	Department reserves the right to inspect the contractor shop floor/premises for evaluation, if required. After evaluating the contractor, decision of the Department is final.	
12.	The supplier shall mention his team details, equipment's / machineries, facilities if any.	

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Section B

**SPECIFICATIONS OF FIRE DETECTION & ALARM SYSTEM
FOR SSLV LAUNCH COMPLEX FACILITIES**

SPECIFICATIONS OF FIRE DETECTION & ALARM SYSTEM SSLV LAUNCH COMPLEX FACILITIES

1. INTRODUCTION

The scope of work under this contract is for " **Design, Supply, Installation, Commissioning and Testing of Analogue Addressable type Fire Detection & Alarm System (FDA), and Integration of FDA to Common Control Room** " in SSLV Launch Complex facilities as per the specifications given below.

S.No.	Description of the works to be carried out	Quantity
1.	Design, Supply, Installation, Commissioning and Testing of Analogue Addressable type Fire Detection & Alarm system for the facilities of SLC as per the specifications given below.	1 Lot *(Refer below Table-1 S.No 1 to 12)
2.	Design, Development, Commissioning, Testing and Integration of FDA systems and its sub system to a common control room with WINCC SCADA software with open protocol.	1 Lot *(Refer below Table-1 S.No 13 & 14)

The execution period reckoned from release of Purchase order to final acceptance is **8 months** (3 months for Supply of items where as Installation, commissioning and testing is for another 5 months based on building readiness and department clearance). The work shall be completed within the stipulated period. The Supplier/party's are advised to take utmost care in studying the quantum & nature of work and plan adequate & suitable resources to execute the purchase order within the stipulated period while submitting the bids.

2. SCOPE OF WORK

The scope of work includes the following:

- Design, Supply, Installation, Commissioning, Integration and Testing of Addressable analogue type Fire Detection & Alarm System (FDA) for the facilities of SSLV Launch Complex to a common control room through SCADA software as mentioned in the document. The System shall be designed as per IS 2189 / NFPA 72-2015. The detailed specifications of the FDA system are given in below sections.

Sl. No.	Description	Qty.	Unit of Measure Lots/Nos/ Sets
1	Supply, installation & commissioning of Microprocessor based analogue addressable type networkable four loop Fire Detection & Alarm Control panel (FACP) for SLC Facilities as per the enclosed specification. FDA panel shall support Ethernet based communication with PLC WINCC SCADA System using MODBUS TCP/IP open protocol. System shall have necessary provision for hooking it to the common control room through LAN.	3	No.
2	Supply, installation & commissioning of Microprocessor based analogue addressable type networkable two loop Fire Detection & Alarm Control panel(FACP) for SLC Facilities as per enclosed specifications. FDA panel shall support Ethernet based communication with PLC WINCC SCADA System using MODBUS TCP/IP open	15	Nos

	protocol. System shall have necessary provision for hooking it to the common control room through LAN.		
3	Supply, installation & commissioning of Aspiration type smoke detection system with Networkable control panel along with necessary accessories and fittings for commissioning the system. Aspiration system should be interfaced to the main FACP as per enclosed specification.	9	Nos
4	Supply, installation & commissioning of Analogue addressable Photoelectric smoke/Multicriteria Detector with mounting base compatible/approved by Fire Alarm Control Panel (FACP) as per enclosed specification	1200	Nos.
5	Supply, installation & commissioning of Analogue addressable heat detectors with mounting base compatible/approved by FACP as per enclosed specification	180	Nos.
6	Supply, installation & commissioning of addressable Beam detectors with mounting base compatible/approved by FACP as per enclosed specification	20	Nos
7	Supply, installation & commissioning of Analogue addressable duct detectors with mounting base along with Relay module for tripping AHU compatible/approved by FACP as per enclosed specification	50	Nos.
8	Supply, installation & commissioning of Addressable power looped sounder/Hooter compatible/approved by FACP as per enclosed specification	60	Nos.
9	Supply, installation & commissioning of Addressable Manual Call Point (MCP) compatible/approved by FACP as per enclosed specification	85	Nos.
10	Supply, installation & commissioning of Response Indicator compatible/approved by FACP as per enclosed specification	600	Nos.
11	Supply, installation & commissioning of Fault isolation module as per enclosed specification	110	Nos.
12	Laying and routing of Armored FRLS,1.5mm x 2 core, Twisted pair, shielded, Armored cable with Good cable management system as per approved layout schematic of detectors and accessories for individual facilities.	20	Km
13	Supply and installation of TCP/IP Modbus interface unit to communicate between SCADA and FACP	18	nos
14	Preparation, Design and Developments of the SCADA layouts, integration of all FACP and associated equipments/system of the detection system with WINCC SCADA software through open protocol and Commissioning and Testing of Integrated FDA systems and its sub system to a common control room.	1	lot

Table-1

Note:

- The quantities mentioned above are tentative. The actual quantity may vary ± 10 % based on site condition. Detailed layout of facilities along with the quantities proposed to be installed will be provided to team after placement of order.
- In addition to the above items, any other items/accessories required for completion of the work and commissioning of the system shall be considered in the scope of supply.

Note:

- Photoelectric Smoke/Multi criteria detectors, Heat detectors, Control Panel (Analogue Addressable type with display and event logging), Manual call stations, Sounders, Modules, Relays etc. shall be strictly as per **UL/LPCB/FM** approvals and/ or as per relevant Indian codes and standards.
- Necessary portable Control Station for Fire Detection and Alarm control Panel(FACP) consisting of minimum configuration of suitable 15.6 inch display, latest core i7 processor, sixteen GB Ram, One TB Solid state HDD, windows ten Operating System, graphic card with compatible network cards/ports, Ethernet ports / converters & USB ports with latest configuration for monitoring and configuring the FACP to be provided along with FACP.
- As a part of integration the FDA system to Common Control room, the necessary licensed software with the state of the art latest WINCC software with associated datalogging provision and 3 web navigator client should be part of the integration of the FDA panels. It should have provision to add new FDA panels and monitoring stations.
- The FDA panels with TCP IP / Modbus communication with converters to be supplied by party to have provision to tap data from communication ports (like RS-232,). The scope of party shall also include supply/ installation/ commissioning of compatible Interface / network cards/modules for extracting data from FDA panels. All FDA panels to be interfaced with SCADA monitoring software of Central Control Station. Refer Annexure- 1 for Integration Block diagram for interfacing with SCADA software.
- Design & development of SCADA display layouts using SCADA software. The developed SCADA display layouts shall aid in monitoring and logging of data from FDA panel/sub-systems.
- The design & development of SCADA layouts shall have unique landing pages which illustrates the entire bird eye view of FDA panel layouts (sensor and sub-system locations). The landing pages shall also have features like drop down menu's/ data acquisition graphs/ Overall functional status/ Logging history etc. indicating as per the data obtained from FDA panel.
- The scope of work also includes training for operation and maintenance of Analogue, Addressable Fire Detection and Alarm system and handing over of all materials, documents, drawings, passwords/keys of software, equipment's and all appliances necessary to commissioning and preventive maintenance.
- For simulation of FDA system Multi Criteria Detectors, smoke and Heat detectors necessary smoke generators, Hot air blowers etc and other necessary items required for maintenance / testing of the FDA system are also in the scope of the supplier.

3.0. DETAILED SCOPE OF WORK

- I. Design, supply, installation, testing, integrating and commissioning and handing over to client at site of Analogue addressable Fire Detection and Alarm System for SSLV Launch Complex Facilities of Indian Space Research Organization (ISRO) (Purchaser) as per the Technical specifications.
- II. Laying of cabling necessary for installation of the system as indicated in the specification. Any openings/closing in the wall/ceiling required for the installation shall be made good in appropriate manner.
- III. The minimum loop length with all devices in the facility to be restricted to the 1.0 to 1.2 km / as per manufacturer recommendations and each loop shall be provided with fault isolator at the beginning, end and one number for every 10 - 15 devices in the loop.
- IV. Interfacing of the Analogue addressable fire alarm panel of SSLV Launch Complex Facilities with Common Control Centre shall be connected through LAN by which the status of panel shall be monitored for alarm / trouble status at the control room as indicated in Annexure-1.
- V. FDA panel supplied as part of this tender document shall have Modbus communication feature / open protocol to interface similar data of FDA systems to the above centralized monitoring software and necessary software license key if any to be submitted by the supplier.
- VI. Party shall provide necessary information of Modbus configuration data for communication drivers and holding registers for interfacing with the existing software.
- VII. Suitable licensing software with License key/Dongle and device programming tool / any essential tool if any required for configuring of FDA panel, devices, loop cards, event logging etc using PC / Laptop shall be provided to department on free of cost.
- VIII. Submission of Design details, Technical specification, Installation, Testing, Integration and Commissioning procedure for Analogue Addressable Fire Detection and Alarm System for SLC facilities.
- IX. Submission of the drawings and documents as per the technical specification.
- X. Implementation of safety at different stages of installation and commissioning.
- XI. Reliability and quality assurance during manufacture, installation and testing of Analogue Addressable Fire Detection and Alarm System for SLC facilities.
- XII. Submission of warranty for efficient and specified performance of the Analogue Addressable Fire Detection and alarm system for SLC facilities. In case, any item is found to mal-operate or fails to provide specified performance during inspection/ testing at SLC site or during commissioning / trial run / testing of the system or during warranty period after commissioning, the supplier shall attend to the faulty / defective item within shortest possible time (24 hrs to 48 hrs) and make necessary repairs / replacement to the satisfaction of the Department, without any commercial implication.

3.1 Installation:

- i.** Analogue Addressable Fire Detection and Alarm System shall be permanently installed at all mentioned SLC Facilities as per this document.
- ii.** The installation of Analogue Addressable Fire Detection and Alarm system for every SLC facilities will be after clearance from the Department officials at SDSC SHAR.
- iii.** Analogue Addressable Fire Detection and Alarm System shall alert the facility occupant in case of any fire or smoke scenario by an audible alarm in the specified rooms to indicate the fire / smoke.
- iv.** Analogue Addressable Fire Detection and Alarm System installation should be designed as per the building specification in terms of room volumes, area etc as well as Indian Standard / any other relevant codes and standard.

3.2 GENERAL INSTALLATION PROCEDURE

- i.** Analogue Addressable Fire Detection and Alarm System delivered at site shall be inspected and checked as per packing list.
- ii.** Analogue Addressable Fire Detection and Alarm System shall be installed as per the approved installation drawing.

3.3 INSPECTION, TESTING AND COMMISSIONING AT DEPARTMENT SITE:

- i.** The total work defined in the tender specification for supply items, site works, testing, commissioning and integrating with SCADA shall be carried out under QC/SR team along with the safety team. All necessary instrumentation, equipment, materials and labour shall be provided by the contractor/supplier.
- ii.** Scope of inspection and testing in the Quality Assurance Plan (QAP) shall include,
 - a.** Identification of materials, review of manufacturer's test certificate
 - b.** Periodical recheck for compliance on scope of work at site.
 - c.** Witness and clearance of all tests including Functional testing of Integrated system as per QAP.
 - d.** Check on Integration of Total System.
 - e.** Final certification of as built drawings and compiled stage wise inspection document.
- iii.** Functional testing of Analogue Addressable Fire Detection and Alarm System at site after supply of items
- iv.** Functional testing of Analogue Addressable Fire Detection and Alarm System at site after installation and commissioning shall include
 - a.** The FACP shall be checked for basis tests such as visually checking input voltage and current. All zones one by one shall be de-wired to check for fault signal indication in the FACP.
 - b.** The power source shall be cut off and checked for standby supply from the batteries. After six hours the FACP source shall be switched on to check for auto switch over to the mains module.
 - c.** Test shall be conducted for AC fail, charger fail, DC fail, Battery disconnect or battery fail. In all such cases the relevant LED should glow and the piezo sound shall also give sound output.
 - d.** Addresses for individual devices to be provided and to be checked during the testing of the system.

- v. In case, Analogue Addressable Fire Detection and Alarm System is found to malfunction or give sub standard performance during this activity, it shall be replaced free of cost.
- vi. The FDA panel shall be connected through the network card MODBUS TCP/IP or similar open protocol to portable monitoring station and interfacing to be checked and shown.

4.0 GENERAL CONDITIONS, SUPPLIER'S OBLIGATION & FUNCTION

- A.** The items covered in this specification shall confirm to technical specifications, latest revision of relevant standards and requirements in respect of accuracy, performance, dimensions, materials of construction, manufacturing, safety, reliability and quality assurance, inspection and testing.
- B.** The party/supplier shall provide the item **catalogue or data sheet of proposed FACP & other related associated components and sensors** along with quotation/offer. The proposed FACP shall meet the below mentioned Technical Specifications. Failure to provide or not meeting the specifications, the supplied item will not be accepted.
- C.** Analogue Addressable Fire Detection and Alarm System all accessories to be supplied under this package shall be new (manufactured after Jan-2025) and from the latest product range of the supplier and shall support minimum 5 – 7 years of service.
- D.** All correspondences / documents shall be in English language and the data / other dimensional details shall be submitted in metric units only.
- E.** The Supplier shall indicate any assumption made in respect of specification, data of any other details that have not been mentioned in this tender but considered necessary for sizing and selection of equipment / systems to meet the specified application requirements. All such assumptions will not be binding on SDSC SHAR, ISRO unless expressly agreed upon. The supplier, under these conditions, shall supply equipment / systems based on the data accepted to SDSC SHAR, ISRO without any commercial implication.
- F.** The party shall provide the cost breakup details as per the format given in Section-D and also shall fill, sign and seal the mandatory checklist to be filled vendor in Section-D. These are to be submitted along with quotation/offer for technical evaluation.
- G.** The party shall bring their own workmen, tools (like drilling & hammering machines, screw driver set) and other additional accessories like ladders, support structures, clamps, screws, etc. for carrying out the execution work.
- H.** The party shall execute the work with utmost care without damaging the property and personnel in Safety building. If any mishap occurred, the responsibility holds with supplier/party.
- I.** Carrying out the execution work shall be taken up after intimation to Safety officer or Facility Engineer-In-Charge. The party shall be able to postpone or pre-pone the execution work i.e. installation, commissioning and testing as per the Safety officer or Facility Engineer-In-Charge instructions.
- J.** Any injury to personnel or damage to property of supplied items during execution work due to negligence or mishap, the department shall not hold any responsibility. The damaged supplied item shall be replaced with new one.
- K.** The party shall bring their own programming tool kit/equipment during commissioning of the system.

- L. No transportation aid will be provided by the department for transfer of items and personnel.
- M. Since SLC is new facility, electrical power required for carrying out installation, testing and commissioning of FDA system at site is in scope of contractor.
- N. The party is responsible and shall carry out the execution of FDA system required for the building. FRLS cable routing plan to be approved by Department before execution of work. The scope of work also includes complete end to end functional checking, continuity, trouble free state in FACP etc.
- O. Functional Test at Site: It is to be noted by the party/supplier. supplied FACP along with sub-systems (detector, MCP, Hooter, Isolator etc.) will be subjected to functional test at site for acceptance. Failure to meet the specification requirements the supplied items will not be accepted.

4.1 SUBMISSION OF TECHNICAL DOCUMENTS AND DRAWING

Supplier shall prepare and submit to SDSC SHAR for approval of following documents and drawings,

- i. Technical literature and data sheets of Analogue Addressable Fire Detection and Alarm System and related accessories.
- ii. Design of Analogue Addressable Fire Detection and Alarm System along with the necessary and drawings and wiring diagram showing the layout of sensors in all the rooms.
- iii. Analogue Addressable Fire Detection and Alarm System test details, certification etc.
- iv. General sensor, panel location, cable routing and execution plan at every facilities of SLC.
- v. Analogue Addressable Fire Detection and Alarm System wiring drawings.
- vi. Details of testing plan.
- vii. Installation sequence schedule along with installation drawings, interface study details, floor level interface drawings.
- viii. No activity shall be executed unless SDSC SHAR's approval is obtained. The above documents shall be submitted in a format approved by SDSC SHAR.

4.2 DESIGN VERIFICATION AND SUPPLY

Supplier shall carry out design verification and supply Analogue Addressable Fire Detection and Alarm System in accordance with the scope, technical specification and terms and conditions of contract.

4.3 INSTALLATION AND TESTING

- i. Supplier's staff shall include adequate number of competent engineers/ technical team with proven experience on similar works to supervise the installation of cable and sufficient skilled, unskilled and semiskilled labour to ensure completion of work in time.
- ii. Supplier's installation staff shall arrive at site on date agreed by SDSC SHAR. Prior to proceeding to work, supplier shall however, first ensure that required/sufficient part of his supply has arrived at site.
- iii. Installation of Analogue Addressable Fire Detection and Alarm System elements may be positioned in such a manner so as not to obstruct the work being done by other suppliers and / or operating staff who may be present at that time.
- iv. During installation, Department's quality team/ their engineer will visit site from time to time with or without supplier's engineer to establish conformity

- of the work with specification. Any deviation, deficiencies or evidence of unsatisfactory workmanship shall be corrected as instructed by Department.
- v. Supplier shall carry out work in a true professional manner and strictly adhere to the approved drawings. Any damage caused by supplier during installation to new / existing building / environment shall be made good at no extra cost to Department.
 - vi. An aesthetic cabin housing for Analogue Addressable Fire Detection and Alarm System sensors at each location is also in the scope of supplier, General Arrangement drawing shall be provided after placement of Purchase order for our approval.
 - vii. As the cable routing is to be done in existing rooms, for routing of cable civil works like making holes in walls, opening of false ceiling and false flooring may be required to be done. The necessary plastering and closure of false flooring / false ceiling and area cleaning has to be done by contractor / supplier. Hence, the scope includes such civil works required for completion of the job.
 - viii. After commissioning the system all panel keys, passwords and software required for programming devices shall be handed over to department in order to ensure smooth functioning of the system.
 - ix. Proper cable management systems shall be used to route the cables in all the locations.

4.4 RECORDS

Supplier shall maintain records pertaining to the quality of installation work in a format approved by Department. Whenever installation work is complete, supplier shall offer installed Analogue Addressable Fire Detection and Alarm System for inspection to department's engineer who along with supplier's engineer will sign such records on acceptance.

4.5 INSTALLATION / CONSTRUCTION POWER & MATERIAL HANDLING

- i. Reasonable quality of normal construction power will be made available at one point (415 V, 3 phase, 50 Hz). However onward distribution shall be by the supplier. Installation of necessary energy meters, switchgear and distribution system, etc for Construction power in a safe manner in strict conformity with local rules and regulations will be responsibility of supplier.
- ii. During non-availability of power, supplier shall make his own arrangement of alternate power source at their cost.

4.6 WORK RULES AT SLC SITE

The work shall be carried out on SDSC SHAR working days only or permission to be obtained from the contract manager for later hours / holidays.

4.7 SITE CLEARANCE

Upon completion of work, supplier shall remove all his equipment and material from the site within one month or time mutually agreed. Supplier at all times shall keep site in clean condition and remove all unwanted material at regular interval. In case supplier fails to remove all their equipment and material within the

mutually agreed time, it is deemed that SDSC SHAR will arrange to remove the same at Supplier's cost.

4.8 WORK PROGRAMME

Supplier shall prepare a detailed programme schedule for review/approval by SDSC SHAR. Supplier as per exigencies of work shall revise and update programme periodically.

4.09 SUB CONTRACTS

- i. No work shall be sub-contacted without prior approval of SDSC SHAR.
- ii. Supplier shall be responsible for the proper execution of any sub-contact placed by him in connection with this purchase order.
- iii. Supplier shall furnish to SDSC SHAR the copies of all un-priced sub orders showing promised delivery dates and places.

4.10 CHANGES AND MODIFICATION TO SPECIFICATIONS, DRAWINGS AND QUALITATIVE / QUANTITATIVE REQUIREMENTS

- i. Supplier shall obtain approval SDSC SHAR before initiating the action for procurement of bought out items.
- ii. During the department review, supplier has to carry out the mutually agreed modifications to meet the overall requirement.

5.0 COMPLIANCE TO STANDARDS

All the items supplied or used shall be new and of first quality and shall be manufactured /fabricated and tested in accordance with the latest editions of the relevant Indian/ International Standards as mentioned in the specifications. Any components or systems where no specific standards are applicable shall be fabricated as per the instructions and directions of the purchaser or its authorized nominee.

6.0 QUALITY OF MATERIALS AND WORKMANSHIP

All equipment / systems, materials and articles incorporated in the work should be new, free from defects and of the most suitable grade for the purpose intended. All work under this contract shall be performed in a skillful and workman-like manner and shall be consistent with the best practices of the industry.

If at any time SDSC SHAR notified that any such equipment/systems, materials, articles or workmanship fails to meet the foregoing standards, the contractor shall promptly take all the remedial steps required to meet those standards.

7.0 OPERATION INSTRUCTION AND PROCEDURE

The Supplier has to submit the 'brief step by step operation procedure' as conceived by the designer for approval at detailed design stage itself. After testing and commissioning the updated document shall be submitted for final clearance and approval. Three copies of the same shall be supplied, Permanent physical identification, which are legible, clearly visible at any stage of operation etc. and markings shall be given on the system where the operator has to carry out his work. Procedure should be well detailed and it should identify all checkpoints before

carrying out any operation. For each operation, a checklist has to be made for systematic check-up and operation.

Operation Manual shall include all minute activities and checkpoints in very detailed manner, the manual also shall include trouble shooting, possible causes and remedial measures to be adopted.

8.0 MAINTENANCE INSTRUCTION AND PROCEDURE

Brief maintenance provisions / procedure document shall be prepared and submitted at identified Engineering stage itself. After testing and commissioning stage, the detailed document shall be submitted for final clearance and approval.

Three copies of the same shall be supplied.

Maintenance document shall include but shall not be limited to the following,

- Detailed wiring and routing diagram of the system
- Applicable drawing
- List of all bought out items, detailed specification and catalogues
- History of the system
- List of consumables and maintenance schedules
- List of spares
- Systematic health checks procedure
- Work prior to starting maintenance and periodical preventive maintenance along with schedules and events
- Step by step procedure for configuring the FACP and system
- Step by step procedure for trouble shooting the system
- Step by step procedure for reconfiguring and programming after repair / refurbishment
- Test results
- Final report

09.0 QUALITY ASSURANCE PLAN

- i.** Tender shall have an established and effective Quality Assurance Plan during manufacturing the system. The QA plan shall be submitted for approval of SDSC SHAR.
- ii.** Tenderer shall ensure that the item supplied is absolutely safe for use in the stipulated work environment and conform to applicable safety norms and standards.
- iii.** During installation and commissioning, the vendor shall strictly comply with Quality Assurance Instruction Including Cleanliness Control, Procurement Control, Design Change Control, Deviation Control, Failure Reporting And Analysis, Calibration Control, documents control and Training requirements.

SECTION – C

**TECHNICAL SPECIFICATION FOR ANALOGUE
ADDRESSABLE FIRE DETECTION AND ALARM SYSTEM
FOR SLC FACILITY**

**TECHNICAL SPECIFICATION FOR ANALOGUE ADDRESSABLE FIRE
DETECTION AND ALARM SYSTEM FOR SLC FACILITY**

1.0 BRIEF SPECIFICATIONS

A. FDA system

- i. The supply & installation of the entire FDA system shall conform to IS 2189 / BS 5839 / NFPA 71 & 72 / TAC norms. All equipment and systems shall be tested and approved by LPCB/UL/FM/relevant IS/EN Standard.
- ii. Shall have solid state, microprocessor based, modular construction, with control panel, addressable analogue control unit for addressing individual detectors, switching systems (for disconnecting AHU & power supply) connected to it and related accessories (loop sounders/Sounders, MCP, FI, I/O modules, etc.,)
- iii. Shall be able to achieve pinpoint location of alarm indication.
- iv. Shall have provision for setting alarm levels of individual detectors (for dust compensation).
- v. Shall have provision for self-diagnostic check testing of system. System should function while undergoing self-check of a particular portion (Zone) of the system.
- vi. Shall have trend monitoring of individual FDA sensors sensitivity values and provision to be available to extend the FDA sensors sensitivity values to centralized monitoring system remotely.
- vii. Should annunciate alarms due to fault / open / short circuit along with fault isolation of segments of the system.
- viii. Should discriminate between fire/false alarm conditions with logging of memory (either in-built or external printer) able to clearly identify the unit address and time.
- ix. Short / open circuit shall also be reported at the Fire Alarm Control Panel (FACP) in such cases, the system through the use of fault isolators shall be able to isolate that segment between the two fault isolators. The missing detectors / devices shall also be reported at the FACP with identification of the location.
- x. FACP shall have its own battery backup for minimum of 48 hours in normal run and then half an hour in alarm condition. The backup time calculation shall be done as per relevant standards. The battery shall be rechargeable maintenance free type, housed inside the FACP.
- xi. Should have provision to trip A/C Air handling unit.
- xii. Should have provision for triggering the gas suppression system.
- xiii. Shall withstand wide ambient temperature & humidity variation.
- xiv. Shall have provision to be interfaced with Public address system & auto dialling facility.
- xv. Shall have networking capability through LAN and necessary RS485 control cards, network cards etc for connecting FDA panel at a common control room.

- xvi. The Fire Alarm Control Panel shall include a full-featured operator interface control for the field programming and control of the fire alarm system. All programming or editing of the existing program in the system shall be achieved without special equipment and without interrupting the alarm monitoring functions of the fire alarm control panel. The FACP shall have the ability to download all network applications and firmware from the configuration computer from a single location on the system.
- xvii. Addresses of each FDA sensor, hooter, manual call point etc., shall be legibly marked near respective sensors.
- xviii. To assess the quantum of work, the tenderer may visit the site with prior intimation to purchase officer and their premises.
- xix. Manufacturing year of FDA panel and sensors should be of 2025 or latest and sensors in the FDA system are compatible for the FDA panel at least minimum 10-15 years from the date of installation.

B. ASPIRATING TYPE SMOKE DETECTION SYSTEM

- i. The scope of the work includes Design, Supply of materials, installation, testing and commissioning of Aspirating smoke Detection System conform to BS 5839/NFPA 71 & 72 / TAC norms for the areas of SLC facilities. The System shall include all equipment's appliances, interfaces required for install the system and programming the same, complete with highly sensitive LASER based smoke Detectors with aspirators connected to network of sampling pipes.
- ii. Make of the system: Xtralis / System Sensor / compatible with FACP.
- iii. Equipment shall be tested, approved and/ or listed by LPCB (Loss Prevention Certification Board)/ UK / FM (Factory Mutual), US / UL (Underwriters Laboratory Inc),/ ULC (Underwriters Laboratories Canada), Canada / relevant equivalent standards.
- iv. System shall provide very early smoke detection and provide multiple output levels corresponding to Fault, Pre-Alarm and fire. These levels shall be programmable and shall be able to set sensitivities ranging from 0.005-20 % obscuration / meter or more.
- v. System shall report any fault on the unit by using configurable fault output relays.
- vi. System shall consist of an air sampling pipe network to transport air to the detection system, supported by design calculations from a computer-based designing module.
- vii. System should include online data transfer and configuration equipment (LAPTOP) and other accessories / interfaces (cards/cables) for programming and managing the network of detectors.
- viii. System shall have provision in the aspirating smoke detectors to trip AHU and to shut fire dampers in the event of fire through the relay contacts.
- ix. The detector shall have four independent field programmable smoke alarm thresholds across its sensitivity range with adjustable time delays for each threshold between 0-60 seconds.
- x. System shall monitor for filter contamination.
- xi. Sampling pipe shall be smooth bore with an internal diameter between 15-25 mm. Normally, pipe with an outside diameter of 25 mm and internal diameter of 21 mm should be used.

- xii. The pipe material should be of CPVC / SS as aspirating pipes and fittings suitable for the environment in which it is installed, preferably Xtralis / System Sensor make or should be the material as suggested by the manufacturer code. Wherever false ceiling is available, the sampling points shall be installed in the ceiling and connected by means of a capillary tube.
- xiii. All pipes should be supported at not less than 1.5 m spacing.
- xiv. Building dimensions approx of 15 m(L) x 15 m(B) x 18 m (H) shall be considered for designing. Exact dimensions of building/layout plan will be issued after placement of order. Air sampling piping network shall be laid as per the approved pipe layout. Pipe work calculations shall be submitted with the proposed pipe layout design for approval.
- xv. System shall be interlinked with addressable fire alarm system using addressable output module.
- xvi. Spacing between the sampling nozzle / port shall be kept 5 m as minimum.

2.0 Detailed Technical Specification

A. FDA PANEL (FIRE ALARM CONTROL PANEL)

- 1). Make: : Morley / Edwards / Siemens meeting our specifications
- 2). Type : Addressable, Analogue (AA), Microprocessor based, suitable for AA detectors, AA Manual call points, AA hooters etc., with High resolution LCD display, with built-in system health verification checks, with capability for intelligence, fault isolation, sensor self – test, Alarm delay function, in suitable IP rating (To be specified by tenderer).
- 3). No. of loops : Two loop panel – 15 nos & Four Loop Panel-3nos
- 4). No. of zones : 20 minimum
- 5). Display : LCD Display for all events, 4x 20 character on each line.
- 6). Input power Rating :
 - a. 230 V AC ,50Hz, Main / UPS Source
 - b. 24 V built in Zero Maintenance batteries suitable for minimum 48 hour's battery backup in transit condition.
- 7). Output : NO/NC Potential free contacts for remote display & alarm annunciation (loop wire) and for AHU tripping.
- 8). Minimum Addressable capability : 99 addressable devices per loop with electronic addressing feature.
- 9). Approvals / Listing : UL/FM/ relevant equivalent standards (including components like power supply cards etc.,) #

Note: System should be hooked to the Common Control room through LAN to the SCADA based remote FDA Monitoring of FDA panel. The FACP panel should have relevant RS ports (485/232) / Ethernet ports along with necessary interface cords to connect through existing LAN Facility.

B. ADDRESSABLE / INTELLIGENT DETECTORS

1. Make: : Morley / Edwards / Siemens
2. Type : Addressable, Analogue / Intelligent, Detectors along with mounting base modular construction with capability for intelligence, remote / local test, status & alarm display functions programmable from panel / hand held device, with possibility to connect loop powered base sounders, with dust compensation feature.
3. Type of Detector: : Multi (Thermal/Photo-Electric), Photoelectric, Heat with electronic addressing feature.
4. Status indication : Blinking LED
5. Alarm indication : Red LED
6. Sensor Operating Range : 0° C to 45° C, 20-90% RH
7. Input Voltage : 17 to 31 V DC, two wire supply
8. Power consumption :
 - a) Stand by : Minimum 32μ A / To be specified by tender
 - b) Alarm : Minimum 45 μ A / To be specified by tender
9. Listing /Approval : UL /LPCB/FM/ equivalent standards #

Note: Trend monitoring of individual sensor sensitivity values to be displayed in the FDA panel and provisions to be made to extend the same to Common Control Room for remote monitoring system.

C. Heat Detectors

1. Make : Morley / Edwards / Siemens
2. Type : Heat Detector (Fixed 57°C + Rate of Rise)
3. Addressable, Analogue / Intelligent, Detectors along with mounting base modular construction with capability for intelligence, remote / local test, status & alarm display functions programmable from panel / hand held device, with possibility to connect loop powered base sounders, with dust compensation feature.
4. Heat Detection : Fixed type with rate of rise Electronic addressing feature
5. Operating Voltage : 17 to 31 V
6. Status Indication : Blinking LED
7. Sensor operating Range : 0° C to 45° C, 20-90% RH
8. Input Voltage Power : 17 to 31 V DC, two wire supply
9. Power Consumption
10. a. Standby : Minimum 51μ A / To be specified by tender
11. b. Alarm : Minimum 68 μ A / To be specified by tender
12. Listing / Approvals : UL /LPCB/FM /equivalent standards #

D. MANUAL PULL STATION

- 1). Make : Morley / Edwards / Siemens
- 2). Type : Addressable with double action type, Resettable normal position with LED indication, weather proof in case of outdoor application.
- 3). Operating voltage : 14 to 22 V DC
- 4). Max. Power consumption
 - a). Normal : Minimum 250 μ A / To be specified by Tender
 - b). Alarm : Minimum 400 μ A / To be specified by tender.

E. HOOTER/ SOUNDER

- 1). Make : Morley / Edwards / Siemens
- 2). Type: : Analog addressable and variable frequency.
- 3). Operating voltage : 17 to 31 V DC
- 4). Max. Power consumption : To be powered from the 2-wire detector loop itself and no separate power supply or additional cable should be used.
 - a. Alarm : Minimum 50 μ A / To be specified by tender
 - b. Stand by : Minimum 30 μ A / To be specified by tender
- 5). Approvals: UL/FM/LPCB / equivalent standards
- 6). Sound output : Minimum 85 dB at 1m distance.

F. AA FAULT ISOLATOR MODULE

- 1). Make : Morley / Edwards / Siemens
- 2). Type : Addressable
- 3). Operating voltage : 17 to 31 V DC
- 4). Features :
 1. With minimum short circuit time of 50 μ sec is preferable.
 2. LED Display when in isolation mode.
- 5). Relay cards, I/O Module devices and related accessories (Switching units, etc) : Yes

G. RESPONSE INDICATOR

- 1). Type : Standard type
- 2). Operating voltage : 17 to 31V DC

H. DUCT DETECTOR HOUSING

The duct housing assemblies shall mount an analogue / addressable detector. The housing shall also protect the measuring chamber from damage and insects. The housing shall utilize an air exhaust tube and an air sampling inlet tube that extends into the duct air stream up to ten feet. Drilling templates and gaskets to facilitate locating and mounting the housing shall also be provided. The housing shall be with smooth finished structure / cabinet. Remote alarm LED indicators and remote test stations shall be provided. Duct Detector shall be provided with Relay modules to trip A/C Air Handling Units in case of fire/ smoke detection by system.

The Detector shall have UL / FM / LPCB approval.

I. Beam Detectors:

1.	Make	:	Morley / Edwards / Siemens
2.	Type	:	Addressable, Analogue / Intelligent, Detectors along with mounting base modular construction with capability for intelligence, remote / local test, status & alarm display functions programmable from panel / hand held device.
3.	Distance	:	10-70 m
4.	Status indication	:	Blinking LED
5.	Alarm indication	:	Hooter
6.	Sensor Operating Range	:	-20 ⁰ C to 55 ⁰ C,20-95% RH
7.	Input Voltage	:	15 to 32 V DC, two wire supply
8.	Power consumption	:	
	a. Stand by	:	Minimum 12 m A / To be specified by tender
	b. Alarm	:	Minimum 22 m A / To be specified by tender
9.	Listing /Approval	:	UL /LPCB/FM / equivalent standards #

J. FRLS Cable

FRLS cable	Armored cable 2 core cable of 20 km will provided as free issue material.
Cable Routing scheme	Cable routing plan to be prepared by contractor and to get department clearance for execution of works.

K. Integration Software

For integration the FDA system to Common Control room, the necessary licensed software with the state of the art latest WINCC software with associated datalogging provision and 3 web navigator client should be part of the integration of the FDA panels. It should have provision to add new FDA panels and monitoring stations.

L. Miscellaneous

Any other miscellaneous materials viz junction box, cable glands/casing, metallic box and other materials required for successful erection, testing and commissioning of FDA system are in the scope of vendors.

M. Department Scope:

Department will provide a 20 km of FRLS cable (2 core,1.5 sq.mm) for carrying out the work.

3. APPROVED MAKES FOR SCHEDULE OF ANALOGUE ADDRESSABLE FIRE DETECTION AND ALARM SYSTEM ELEMENTS

Sl. No	Description	Approved Make
1.	Fire Alarm Control Panel (FACP)	Morley / Edwards / Siemens
2.	Detectors, Manual pull station, Fault Isolators, Sounders/ Hooters, Aspiration, Beam etc.	

Note:

Parties who fails to supply approved makes will leads to rejection.

4.0 SCHEDULE OF ANALOGUE ADDRESSABLE FIRE DETECTION AND ALARM SYSTEM FOR SLC FACILITY

Sl. No.	Description	Qty.	Unit of Measure Lots/Nos/Set s
1	Supply, installation & commissioning of Microprocessor based analogue addressable type networkable four loop Fire Detection & Alarm Control panel(FACP) for SLC Facilities as per the enclosed specification. FDA panel shall support Ethernet based communication with PLC WINCC SCADA System using MODBUS TCP/IP open protocol. System shall have necessary provision for hooking it to the common control room through LAN.	3	No.
2	Supply, installation & commissioning of Microprocessor based analogue addressable type networkable two loop Fire Detection & Alarm Control panel(FACP) for SLC Facilities as per enclosed specifications. FDA panel shall support Ethernet based communication with PLC WINCC SCADA System using MODBUS TCP/IP open protocol. System shall have necessary provision for hooking it to the common control room through LAN.	15	Nos
3	Supply, installation & commissioning of Aspiration type smoke detection system with Networkable control panel along with necessary accessories and fittings for commissioning the system. Aspiration system should be interfaced to the main FACP as per enclosed specification.	9	Nos
4	Supply, installation & commissioning of Analogue addressable Photoelectric smoke/Multicriteria Detector with mounting base compatible/approved by Fire Alarm Control Panel (FACP) as per enclosed specification	1200	Nos.
5	Supply, installation & commissioning of Analogue addressable heat detectors with mounting base	180	Nos.

	compatible/approved by FACP as per enclosed specification		
6	Supply, installation & commissioning of addressable Beam detectors with mounting base compatible/approved by FACP as per enclosed specification	20	Nos
7	Supply, installation & commissioning of Analogue addressable duct detectors with mounting base along with Relay module for tripping AHU compatible/approved by FACP as per enclosed specification	50	Nos.
8	Supply, installation & commissioning of Addressable power looped sounder/Hooter compatible/approved by FACP as per enclosed specification	60	Nos.
9	Supply, installation & commissioning of Addressable Manual Call Point (MCP) compatible/approved by FACP as per enclosed specification	85	Nos.
10	Supply, installation & commissioning of Response Indicator compatible/approved by FACP as per enclosed specification	600	Nos.
11	Supply, installation & commissioning of Fault isolation module as per enclosed specification	110	Nos.
12	Laying and routing of Armored FRLS,1.5mm x 2 core, Twisted pair, shielded, Armored cable with Good cable management system as per approved layout schematic of detectors and accessories for individual facilities.	20	Km
13	Supply and installation of TCP/IP Modbus interface unit to communicate between SCADA and FACP	18	nos
14	Preparation, Design and Developments of the SCADA layouts, integration of all FACP and associated equipments/system of the detection system with WINCC SCADA software through open protocol and Commissioning and Testing of Integrated FDA systems and its sub system to a common control room.	1	lot

Note:

- i. The quantities mentioned above are tentative. The actual quantity may vary ± 10 % based on site condition. Detailed layout of facilities along with the quantities proposed to be installed will be provided to team after placement of order.
- ii. In addition to the above main items any other items / accessories which are required for completion of the work and commissioning of the system also in scope of supply.

Section-D
FORMATS TO BE FILLED BY VENDOR

Section-D

1.0 Bidder Minimum Qualification Criteria

The following are the minimum essential criteria to further validate/accept the bid. Vendor is requested to provide all the necessary supporting documents. If any deviation/non-compliances/lack of supporting document bid shall be summarily rejected.

Sl. No	Description	Vendor Compliance with Supporting Documents
1.	The Bidder should be Company/Society/Firm registered in India since last 3 (three) years or more. Company Profile along with documentary evidence of services offered and all relevant enclosures to be submitted.	
2.	Bidder has to provide OEM authorization for the items(FACP panel and its associated systems and aspiration type detection systems) to be supplied.	
3.	During Last three years ending 31.03.2025 , the bidders should have successfully completed either of the following works involved in supply, installation, testing and commissioning of Fire Detection System as per the specifications in Section-B and Section – C. One Similar completed work not less than Rs. 120 Lakhs, Two Similar completed works each not less than Rs. 80 Lakhs each, Three similar completed works each not less than Rs. 35 Lakhs each.	
4.	The Bidder's average annual financial turnover shall be not less than Rs. 80 lakhs per year during last three financial years ending with 31.03.2025.	
5.	Copies of relevant purchase / work / contract agreement along with corresponding completion certificates issued by competent authority shall be submitted in this regard.	
6.	Vendor should have a minimum track record of 3 years of trouble-free operation for minimum 3 major Installations in India for installed Fire Alarm System / devices and panels being offered. FDA integration with open protocol through SCADA system shall be submitted. Details of such installations shall be sent along with offer.	
7.	Audited balance sheet & Profit & Loss A/c is to be submitted (or) Copy of the IT return filed / audited last 3 years financial statements for Financial years ending with 31.03.2025.	

Sl. No	Description	Vendor Compliance with Supporting Documents
8.	Vendor must undertake supply, erection, testing and commissioning of Fire Detection and Alarm system as per the specifications and requirements indicated in the specification. Splitting of order is not permissible.	
9.	Vendor is confirming and accepting to demonstrate the interlinking/integrating of FDA system and its sub system to a common control room with WINCC SCADA software with open protocol as a proof of concept before price bid opening. Vendor who are failing to demonstrate will leads to rejection. Vendor has to demonstrate the proof concept before committee within 10 days from the date of intimation. Party should bring the required panels, devices, software and other required subsystem for demonstration.	
10.	Latest solvency certificate for the current financial year 2025-26 from any Nationalized/Scheduled bank shall be submitted for a value of Rs.25 lakhs.	
11.	Technical compliance to the specifications shall be vetted by the bidder.	
12.	The firm must provide a self-declaration that they have not been black listed by any Govt. Department/PSU.	
13.	Three (3) years of CAMC charges should be quoted separately on yearly basis along with price bid format and not in Technical bid. CAMC charges shall not be considered for arriving at L1 and there is no commitment at the time of placement of order for procurement of stores. However, the charges quoted for CAMC shall be open for negotiation and valid until warranty period. A separate PO for CAMC, if opted by the Purchaser, shall be released on the successful supplier ahead of warranty period. Hence, mandatory to quote for CAMC.	
14.	The supplier shall mention his team details, equipment's / machineries, facilities if any.	

Note:

- Technical proposal of the bidder, which is not able to substantiate/satisfy the claims made by it with respect to the technical requirements laid down in this tender specification, will be summarily rejected.
- Offers of those bidders taking full scope of the as per the tender specification only will be considered.

Signature of Authorized Person with Seal

2.0 Bidder Evaluation Criteria. The broad guidelines for evaluation of Bids will be as follows:

Sl. No	Description	Vendor Compliance
1.	In respect of Two-Bid system, the technical Bids forwarded by the Bidders will be evaluated by the Department with reference to the tendering specifications. The compliance of Technical Bids would be determined on the basis of the parameters specified in the tendering specifications. The Price Bids of only those Bidders will be opened whose Technical Bids would clear the technical evaluation.	
2.	During evaluation, SDSC SHAR may request Bidder for any clarification on the bid, additional documents . If required vendor will be inspected at his work site or previous work site to evaluate the capability and genuineness of the documents document submitted. If any deviation found, it will leads to rejection.	
3.	Bidder must provide the point-by-point compliance to the technical specifications and only the approved makes as given in the technical specifications are accepted. The tender will be rejected if the approved makes are not met.	
4.	Performance of Bidder on similar nature of works executed/ under execution shall be taken into consideration before selecting the Bidder for opening his price bid.	
5.	The time schedule for completion is given in the Proposal document. Bidder is required to confirm the completion period unconditionally.	
6.	SDSC SHAR reserves the right to reject any bid if technically/commercially not meeting the requirement/terms & conditions. Such decisions by the SDSC SHAR shall bear no liability whatsoever consequent upon such decision.	
7.	Total price inclusive of all taxes, duties, shall be considered for arriving L1 (Overall Lowest) and awarding the contract as per the procedures.	
8.	If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price will prevail and the total price will be corrected. If there is a discrepancy between words and figures, the amount in words will prevail for calculation of price.	
9.	As all the items within tender specification are inter dependent, splitting of the order is not possible. Hence Overall lowest bidder will be considered.	
10.	Vendor is confirming and accepting to demonstrate the interlinking/integrating of FDA system and its sub system to a common control room with WINCC SCADA software with open protocol as a proof of concept before price bid opening. Vendor who are failing to demonstrate will leads to rejection. Vendor has to demonstrate the proof concept before committee within 10 days from the date of intimation. Party should bring the required panels, devices, software and other required subsystem for demonstration.	
11.	Department reserves the right to inspect the contractor shop floor/premises for evaluation, if required. After evaluating the contractor, decision of the Department is final.	
12.	The supplier shall mention his team details, equipment's / machineries, facilities if any.	

Signature of Authorized Person with Seal

3.0 Mandatory Checklist Filled by Vendor:

The contractor shall confirm the following points with regard to the scope defined in the work contract specifications without which the order will not be considered.

Sl. No	Description	Complied (Yes/No)	Remarks
1.	Confirm System details and proposals given the tendering specifications " Design, Supply, Installation, Commissioning and Testing of Analogue Addressable type Fire Detection and Alarm System and Integration of all FACP's to Centralized Monitoring Station in SSLV Launch Complex facilities as per the specifications in Section-B and Section – C". – 1 lot* is understood and accepted. (*One Lot consists of the schedule of quantities as defined in Table-1)		
II.	SECTION – A GENERAL TERMS AND CONDITIONS FOR BID		
1.	Confirm Sl.No.01 , Terms and Conditions for Bids are understood and accepted.		
2.	Confirm for Proposal document Sl.No.2.1 to 2.7 , all points are followed.		
3.	Confirm Sl. No. 3.0, Bid Evaluation is understood and accepted.		
4.	Confirm Sl.No. 4.0 Taxes is understood and accepted		
5.	Confirm Sl.No. 5.0 Terms of Payment is understood and accepted		
6.	Confirm Sl.No. 6.0 Warranty is understood and accepted		
7.	Confirm Sl.No. 7.0 Make in India Clause is understood and accepted		
8.	Confirm Sl.No. 8.0 Liquidated Damage (LD) clause is understood and accepted		
9.	Confirm Sl.No. 09.0 Security Deposit cum Performance Bank Guarantee clause is understood and accepted		
10.	Confirm Sl.No. 10.0 Validity of offer is understood and accepted		
11.	Confirm Sl.No. 11.0 Force Majure clause is understood and accepted		
12.	Confirm Sl.No. 12.0 Arbitration clause is understood and accepted		
13.	Confirm Sl.No. 13.0 Secrecy clause is understood and accepted		
14.	Confirm Sl.No. 14.0 Compliance with Security requirements is understood and accepted		
15.	Confirm Sl.No. 15.0 Confidentiality and Proprietary Right Protection is understood and accepted		
16.	Confirm Sl.No. 16.0 Applicable Law and Jurisdiction is understood and accepted		
17.	Confirm Sl.No. 17.0 Instruction to the Bidder is understood and accepted		
18.	Confirm Sl.No. 18.0 Terms and Conditions to Bidder is understood and accepted		
19.	Confirm Sl.No. 19.0 Packing and Forwarding clause is understood and accepted		
20.	Confirm Sl.No. 20.0 Specific requirement clause is understood and accepted		
21.	Confirm Sl.No. 21.0 Safety Clause is understood and accepted		
22.	Confirm Sl.No. 22.0 General Conditions is understood and accepted		
23.	Confirm Sl.No. 23.0 Delivery Schedule clause is understood and accepted		
24.	Confirm Sl.No. 24.0 Transportation and Material Handling clause is understood and accepted		
25.	Confirm Sl.No. 25.0 Evaluation of Machinery and Manpower and consumables clause is understood and accepted		
26.	Confirm Sl.No. 26.0 Medical Assistance clause is understood and accepted		

27.	Confirm Sl.No. 27.0 Accomdation clause is understood and accepted		
28.	Confirm Sl.No. 28.0 Records of Documents, Drawings, Operation and Maintenance Manuals clause is understood and accepted		
29.	Confirm Sl.No. 29.0 Risk and Cost Purchase clause is understood and accepted		
II	SECTION-B SPECIFICATIONS OF FIRE DETECTION & ALARM SYSTEM SSLV LAUNCH COMPLEX FACILITIES		
1.0	Confirm Sl.No. 1.0 clause is understood and accepted		
2.0	Confirm Sl.No. 2.0 Scope of Work clause is understood and accepted		
3.0	Confirm Sl.No. 3.0 Detailed Scope of Work clause is understood and accepted		
	Confirm Sl.No. 3.1 Installation clause is understood and accepted		
4.0	Confirm Sl.No. 3.2 General Installation Procedures clause is understood and accepted		
5.0	Confirm Sl.No. 3.3 Inspection, Testing and Commissioning at Department site Clause is understood and accepted		
6.0	Confirm Sl.No. 4.0 General Conditions, Suppliers Obligation and function is understood and accepted		
8.0	Confirm Sl.No. 4.1 Submission of Technical Documents understood and accepted		
9.0	Confirm Sl.No. 4.2 Design Verification and Supply clause is understood and accepted		
10	Confirm Sl.No. 4.3 Installation and Testing clause is understood and accepted		
11.0	Confirm Sl.No. 4.4 Records clause is understood and accepted		
12.0	Confirm Sl.No. 4.5 Installation / Construction Power and Material Handling clause is understood and accepted		
13.0	Confirm Sl.No. 4.6 Work Rules at SLC site clause is understood and accepted		
14.0	Confirm Sl.No. 4.7 Site Clearance clause is understood and accepted		
15.0	Confirm Sl.No. 4.8 Work Programme Clause is understood and accepted		
16.0	Confirm Sl.No. 4.9 Sub Contracts clause is understood and accepted		
17.0	Confirm Sl.No. 4.10 changes and modification to specifications, drawings and qualitative / quantitative requirements clause is understood and accepted		
18.0	Confirm Sl.No. 5.0 Compliance to Standards clause is understood and accepted		
19.0	Confirm Sl.No. 6.0 Quality of Materials and Workmanship clause is understood and accepted		
20.0	Confirm Sl.No.7.0 Operation Instruction and Procedure clause is understood and accepted		
21.0	Confirm Sl.No. 8.0 Maintenance Instruction and Procedures clause is understood and accepted		
22.0	Confirm Sl.No. 09.0 Quality Assurance Plan clause is understood and accepted		
III	SECTION-C TECHNICAL SPECIFICATION FOR ANALOGUE ADDRESSABLE FIRE DETECTION AND ALARM SYSTEM FOR SLC FACILITY		

1.0	Confirm Sl.No. 1.0 (A & B) Brief Specification clause is understood and accepted			
2.0	Confirm the S.No 2. A. FDA Panel specification is understood and accepted			
	Make:	Morley / Edwards / Siemens meeting our specifications		
3.0	Confirm the S.No 2. B. Addressable / Intelligent Detectors specification is understood and accepted			
	Make:	Morley / Edwards / Siemens		
4.0	Confirm the S.No C. Heat Detector specification is understood and accepted			
	Make	Morley / Edwards / Siemens		
5.0	Confirm the S.No D. Manual Pull Stations specification is understood and accepted			
	Make	Morley / Edwards / Siemens		
6.0	Confirm the S.No E. Hooters / Sounder specification is understood and accepted			
	Make	Morley / Edwards / Siemens		
7.0	Confirm the S.No F. Fault Isolators Module specification is understood and accepted			
	Make	Morley / Edwards / Siemens		
8.0	Confirm the S.No G. Response Indicator specification is understood and accepted			
9.0	Confirm the S.No H. Duct Detector Housing Response Indicator specification is understood and accepted			
10.0	Confirm the S.No I. Beam Detectors specification is understood and accepted			
	Make	Morley / Edwards / Siemens		
11.0	Confirm the S.No K. FRLS Cable specification is understood and accepted			
	FRLS cable	Armored cable 2 core cable of 20 km will provided as free issue material.		
	Cable Routing scheme	Cable routing plan to be prepared by contractor and to get department clearance for execution of works.		
12.0	Confirm the S.No K. Integration Software clause is understood and accepted			
13.0	Confirm the S.No L. Miscellaneous clause is understood and accepted			
14.0	Confirm the S.No M. Department Scope Clause is understood and accepted			
15.0	Confirm the S.No 3.0 Approved Make Clause is understood and accepted			
16.0	Confirm the S.No 4.0 Schedule of Analogue Addressable Fire Detection and Alarm System for SLC Facility is understood and accepted			
IV	SECTION-D FORMATS TO BE FILLED BY VENDOR			
1.0	Confirm the Bidder Minimum Qualification Criteria is duly filled, signed, sealed and submitted			

2.0	Confirm the Bidder Evaluation Criteria is duly filled, signed, sealed and submitted		
3.0	Confirm the Mandatory Checklist Filled by Vendor is duly filled, signed, sealed and submitted		
4.0	Confirm Price Bid Format is duly filled, signed, sealed and submitted		

Signature of Authorized Person with Seal

Price Bid Format:

(Price bid shall not be a part of techno-commercial bid. It shall be submitted separately in the relevant pages/forms in the E-Procurement portal as per the instructions provided by Purchase office, SDSC SHAR.)

1. Supply of Items

Sl. No.	Description	Qty.	Unit of Measure Lots/Nos/Sets	Unit Cost	Tax Percentage	Total Cost
1	Supply of Microprocessor based analogue addressable type networkable four loop Fire Detection & Alarm Control panel(FACP) for SLC Facilities as per the enclosed specification. FDA panel shall support Ethernet based communication with PLC WINCC SCADA System using MODBUS TCP/IP open protocol. System shall have necessary provision for hooking it to the common control room through LAN.	3	No.			
2	Supply of Microprocessor based analogue addressable type networkable two loop Fire Detection & Alarm Control panel(FACP) for SLC Facilities as per enclosed specifications. FDA panel shall support Ethernet based communication with PLC WINCC SCADA System using MODBUS TCP/IP open protocol. System shall have necessary provision for hooking it to the common control room through LAN.	15	Nos			
3	Supply of Aspiration type smoke detection system with Networkable control panel along with necessary accessories and fittings for commissioning the system. Aspiration system should be interfaced to the main FACP as per enclosed specification.	9	Nos			

4	Supply of Analogue addressable Photoelectric smoke/Multicriteria Detector with mounting base compatible/approved by Fire Alarm Control Panel (FACP) as per enclosed specification	1200	Nos.			
5	Supply of Analogue addressable heat detectors with mounting base compatible/approved by FACP as per enclosed specification	180	Nos.			
6	Supply of addressable Beam detectors with mounting base compatible/approved by FACP as per enclosed specification	20	Nos			
7	Supply of Analogue addressable duct detectors with mounting base along with Relay module for tripping AHU compatible/approved by FACP as per enclosed specification	50	Nos.			
8	Supply of Addressable power looped sounder/Hooter compatible/approved by FACP as per enclosed specification	60	Nos.			
9	Supply of Addressable Manual Call Point (MCP) compatible/approved by FACP as per enclosed specification	85	Nos.			
10	Supply of Response Indicator compatible/approved by FACP as per enclosed specification	600	Nos.			
11	Supply of Fault isolation module as per enclosed specification	110	Nos.			
12	Supply of TCP/IP Modbus interface unit to communicate between SCADA and FACP	18	nos			
13	Preparation, Design and Developments of the SCADA layouts	1	lot			
Total						

III. Installation, Testing and Commissioning

Sl. No.	Description	Qty.	Unit of Measure Lots/Nos/Sets	Unit Cost	Tax Percentage	Total Cost
1	Installation & commissioning of Microprocessor based analogue addressable type networkable four loop Fire Detection & Alarm Control panel(FACP) for SLC Facilities as per the enclosed specification. FDA panel shall support Ethernet based communication with PLC WINCC SCADA System using MODBUS TCP/IP open protocol. System shall have necessary provision for hooking it to the common control room through LAN.	3	No.			
2	Installation & commissioning of Microprocessor based analogue addressable type networkable two loop Fire Detection & Alarm Control panel(FACP) for SLC Facilities as per enclosed specifications. FDA panel shall support Ethernet based communication with PLC WINCC SCADA System using MODBUS TCP/IP open protocol. System shall have necessary provision for hooking it to the common control room through LAN.	15	Nos			
3	Installation & commissioning of Aspiration type smoke detection system with Networkable control panel along with necessary accessories and fittings for commissioning the system. Aspiration system should be interfaced to the main FACP as per enclosed specification.	9	Nos			
4	Installation & commissioning of Analogue addressable Photoelectric smoke/Multicriteria Detector with mounting	1200	Nos.			

Sl. No.	Description	Qty.	Unit of Measure Lots/Nos/Sets	Unit Cost	Tax Percentage	Total Cost
	base compatible/approved by Fire Alarm Control Panel (FACP) as per enclosed specification					
5	Installation & commissioning of Analogue addressable heat detectors with mounting base compatible/approved by FACP as per enclosed specification	180	Nos.			
6	Installation & commissioning of addressable Beam detectors with mounting base compatible/approved by FACP as per enclosed specification	20	Nos			
7	Installation & commissioning of Analogue addressable duct detectors with mounting base along with Relay module for tripping AHU compatible/approved by FACP as per enclosed specification	50	Nos.			
8	Installation & commissioning of Addressable power looped sounder/Hooter compatible/approved by FACP as per enclosed specification	60	Nos.			
9	Installation & commissioning of Addressable Manual Call Point (MCP) compatible/approved by FACP as per enclosed specification	85	Nos.			
10	Installation & commissioning of Response Indicator compatible/approved by FACP as per enclosed specification	600	Nos.			
11	Installation & commissioning of Fault isolation module as per enclosed specification	110	Nos.			
12	Laying and routing of Armored FRLS,1.5mm x 2 core, Twisted pair, shielded, Armored cable with Good cable management system as per approved layout schematic of detectors and accessories for individual facilities.	20	Km			

Sl. No.	Description	Qty.	Unit of Measure Lots/Nos/Sets	Unit Cost	Tax Percentage	Total Cost
13	Installation & commissioning of TCP/IP Modbus interface unit to communicate between SCADA and FACP	18	nos			
14	Integration of all FACP and associated equipments/system of the detection system with WINCC SCADA software through open protocol and Commissioning and Testing of Integrated FDA systems and its sub system to a common control room.	1	lot			
Total						

IV. PRICE SCHEDULE (For CAMC):

Sl. No.	Items Description	Qty.	Cost per Unit	Taxes	Total cost
1	3 years (year – wise) comprehensive Annual Maintenance Contract (CAMC) (for FDA System and its sub systems) after the expiry of one warranty period				
	1 st Year CAMC	1 lot			
	2 nd Year CAMC	1 lot			
	3 rd Year CAMC	1 lot			

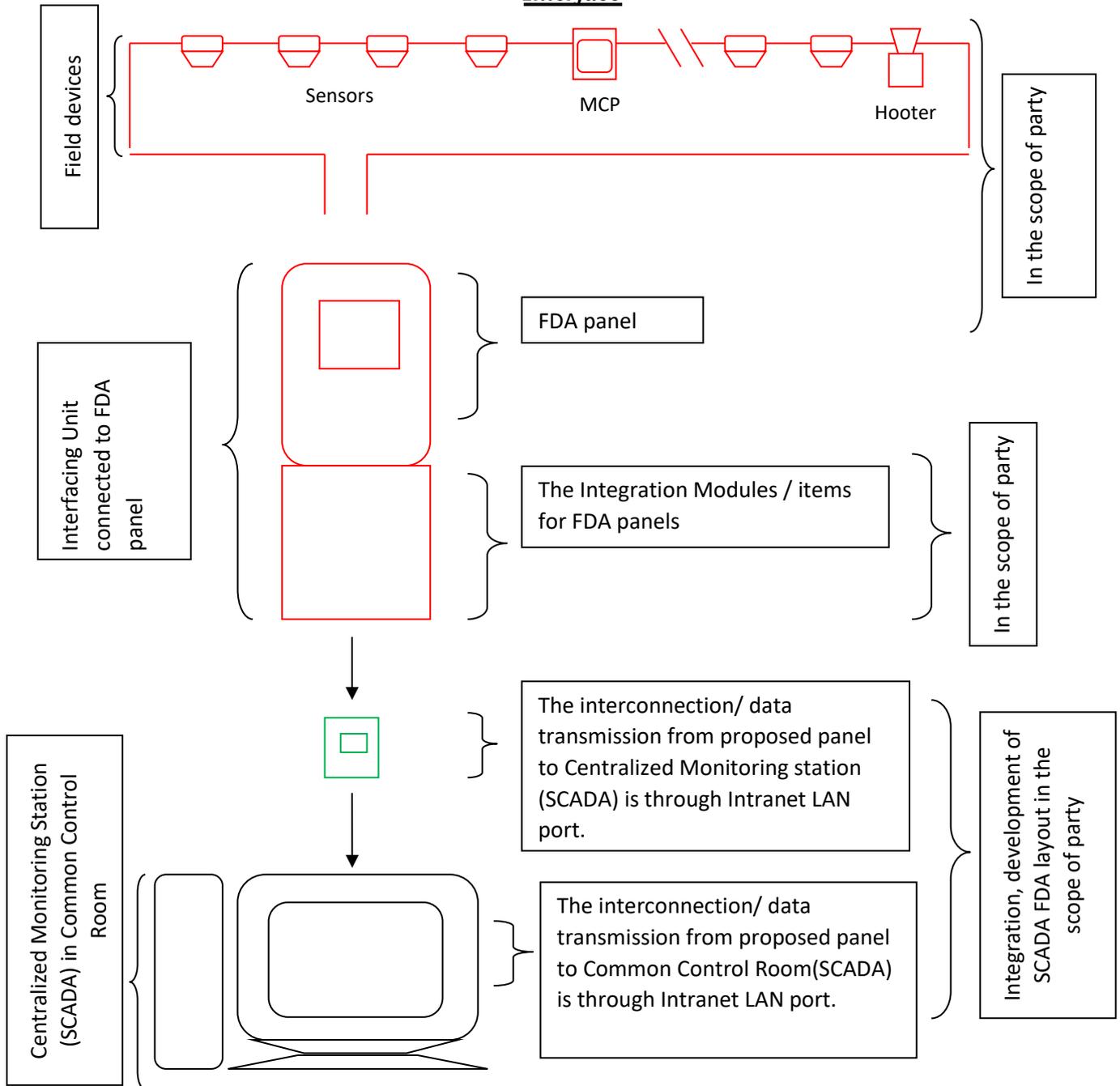
Note:

- Price bid shall not be a part of techno-commercial bid. It shall be submitted separately in the relevant pages/forms in the E-Procurement portal as per the instructions provided by Purchase office, SDSC SHAR.
- Prices shall be quoted for all items mentioned in the above list of deliverables.

- CAMC charges shall not be considered for arriving at L1 and there is no commitment at the time of placement of order for procurement of stores. However, the charges quoted for CAMC shall be open for negotiation and valid until warranty period. A separate PO for CAMC, if opted by the Purchaser, shall be released on the successful supplier ahead of warranty period. Hence, mandatory to quote for CAMC.
- Electrical power and supporting equipments required for successful erection, testing and commissioning of system is in scope of vendor.
- A quantity variation of $\pm 10\%$ in each item as per BOQ in S.No 4, 5,7,8,9,10,11 and 12 in Supply portion and S.No 4, 5,7,8,9,10,11 & 12 in installation, testing and commissioning portion shall be allowed to account for variation to prevailing site conditions in the field. However, payment will be made for the actual quantity supplied and installed at site.
- Order cannot be split as it involves supply, installation, testing and commissioning of sub components. Realization is inter dependable.
- If necessary, the Bidders, may visit New Launch Complex Project Site for understanding the scope of work requirements at site and assess the site conditions before submitting the bid.
- If there is a discrepancy between the unit price and total price, the UNIT PRICE shall prevail.
- All applicable taxes must be mentioned against each item. Rate of each applicable tax must be mentioned in price bid. If taxes not mentioned, it is treated that price quoted is inclusive of taxes.

Seal and Signature of authorized personnel

Integration Block Diagram of Fire Detection and Alarm System at SLC – Details of Interface



Note:

- The Request for proposal document shall have the above sequence of format i.e.
 1. Supply and Erection of FDA panels and sub systems in as per Table 1 of Section B.
 2. Integration of all FDA panels as mentioned in Table 1 of Section B to monitor the status of FDA panels 24x7.
 3. The data transmission from panel is to be transmitted via LAN network.
 - The details of additional cards/modules/inputs etc which are needed for successful communication from FDA panel to SCADA software shall also to be included.

Note: The cost for the above is to be considered in Integration work of for individual facility. Vendor has to demonstrate interlinking of FDA panels with SCADA as proof of concept for getting technically qualified.

SCADA System Software Details: WinCC system software (latest) with necessary license and power tags to include future provision