



Telephone:+91-40-20203009	Date: 09.11.2023
Website : www.tifrh.res.in	Email: krishnaae@tifrh.res.in

PUBLIC TENDER

(TWO PART TENDER) for the following Works:

Supply, Installation, Testing & Commissioning of Fire Alarm System & Fire Fighting works and other related works for Nutrition Facility, Plot-B, TIFR, Survey No. 36/P, Gopanpally (Village), Serilingampally (Mandal), Ranga Reddy Dist., Hyderabad- 500046.	
Tender No.	TIFR/PD/CF23-125/231024
Type of Tender	Two Part Tender (Part-I: Technical Bid and Part- II: Price Bid)
Estimated Cost	Rs.9,36,561/-
Cost of EMD	Rs. 18, 731/- (Demand Draft to be drawn in favour of "TIFR Center for Interdisciplinary Sciences", Payable at Hyderabad (To be enclosed with the Technical Bid Part – I).
Pre bidding meeting & Time	13.11.2023 at 15:00 Hrs
Last Date for Submission of Tender	17.11.2023 by 13:00 Hrs
Date of Opening Bids(Only Part-I: Technical Bid)	17.11.2023 at 15:30 Hrs
Tender Fee	Rs. 500/- (Demand Draft to be drawn in favour of "TIFR Centre for Interdisciplinary Sciences" Payable at Hyderabad (To be enclosed with the Technical Bid Part –I).

- In case the Part "I" and Part "II" bids are not sealed in separate envelopes the tender will be rejected.
- The technical bid should not contain any indication of the price.
- The Technical Bid received without payment of tender fees and EMD shall be summarily rejected.
- Contacts: Mr. Krishna, Tel: 040- 20203009 for any technical or commercial terms clarifications mentioned in the tender.



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Sealed tenders are invited for the aforesaid works from contractors having similar work experience in reputed Research Institutions, Universities, Central Government/Public Sector Undertaking, Private Laboratories, Multinational Companies, etc. Interested contractors who are satisfying prequalification criteria stipulated by TIFR-Hyderabad shall only submit their bids. For further details and any clarification on the tender you may please contact Head-Technical Services, Survey No.36/P, Gopanpally Village, Serilingampally Mandal, Ranga Reddy District, Hyderabad-500046.

Last date for submission of the tender is 17.11.2023 by 13:00 Hrs.

A handwritten signature in black ink, appearing to read 'Rajasekhar. R', is positioned above the printed name.

(Rajasekhar. R)

Head-Technical Services



TENDER DOCUMENT

Supply, Installation, Testing & Commissioning of Fire Alarm System & Fire Fighting works and other related works for Nutrition Facility, Plot-B, TIFR, Survey No. 36/P, Gopanpally (Village), Serilingampally (Mandal), Ranga Reddy Dist., Hyderabad- 500046

NAME OF THE TENDERER:

Address:

.....

.....

.....

Last date of submission of the tender: On or before 17.11.2023 by 13:00 Hrs.



TECHNICAL BID

PART-I

Supply, Installation, Testing & Commissioning of Fire Alarm System & Fire Fighting works and other related works for Nutrition Facility, Plot-B, TIFR, Survey No. 36/P, Gopanpally (Village), Serilingampally (Mandal), Ranga Reddy Dist., Hyderabad- 500046



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Tender Notice	:	TIFR/PD/CF23-125/231024
Name of Work	:	Supply, Installation, Testing & Commissioning of Fire Alarm System & Fire Fighting works and other related works for Nutrition Facility, Plot-B, TIFR, Survey No. 36/P, Gopanpally (Village), Serilingampally (Mandal), Ranga Reddy Dist., Hyderabad-500046
Location	:	Tata Institute of Fundamental Research Survey No. 36/P, Gopanpally Village, Serilingampally Mandal, Ranga Reddy District, Hyderabad – 500046.
Estimated Cost	:	Rs.9,36,561/-
EMD	:	Rs.18,731/- (Demand Draft to be drawn in favour of “TIFR Centre for Interdisciplinary Sciences”, Payable at Hyderabad (To be enclosed with the Technical Bid Part – I).
Delivery Period	:	90 Days (Completion Period)
Validity	:	75 (Seventy Five) days after opening of Part-I, Technical Bid



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SECTION-I

IMPORTANT INFORMATION



TATA INSTITUTE OF FUNDAMENTAL RESEARCH

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INTRODUCTION

The Tata Institute of Fundamental Research is a National Centre of the Government of India, under the umbrella of the Department of Atomic Energy, as well as a deemed University awarding degrees for master's and doctoral programs. Tata Institute of Fundamental Research Centre for Interdisciplinary Sciences, Hyderabad invites bids for the following work:

Supply, Installation, Testing & Commissioning of Fire Alarm System & Fire Fighting works and other related works for Nutrition Facility, Plot-B, TIFR, Survey No. 36/P, Gopanpally (Village), Serilingampally (Mandal), Ranga Reddy Dist., Hyderabad- 500046

1. PARTICULARS

a)	Location	TIFR, Survey No. 36/P, Gopanpally (Village), Serilingampally (Mandal), Ranga Reddy Dist., Hyderabad-500046.
b)	Pre-Bid Meeting Date & Time	13.11.2023 at 15:00 Hrs
c)	Closing date & time of receipt of bids	17.11.2023 by 13:00 Hrs
d)	Date & time of opening of Sealed Cover-I containing Technical Bid	17.11.2023 at 15:30 Hrs
e)	Date of opening of Sealed cover-II containing Financial Bid of eligible bidders	To be intimated to eligible bidders within 7 days from the date of tender open.

2. GENERAL INSTRUCTIONS

- 2.1. TIFR shall award the contract for the project through the two Bid systems.
- 2.2. The Contractor is advised to visit and examine the site of work and its surroundings and obtain any information that may be necessary, in addition to those provided in this document. The Contractor shall be deemed to have fully acquainted himself about the site condition, whether he inspects it or not.
- 2.3. The Contractor should adhere to the building bye-laws applicable for the area.
- 2.4. All clarifications shall be sought before the date of pre-bid meeting. The bidders may make suggestions which shall be considered during the Pre Bid Meeting. No further clarifications shall be issued after the issue of noteworthy replies to the pre-bid queries.
- 2.5. The submission of the bid by Contractor would imply that they have carefully read and agreed to the terms and conditions contained in this bid document.
- 2.6. The bid for the work shall remain open for acceptance for a period of **75 (Seventy Five)** days from the date of submission of the bids, which period may be extended by mutual agreement and the Contractor shall not cancel or withdraw the offer during this period.
- 2.7. This bid document shall form a part of the contract agreement.

3. SUBMISSION OF BIDS

Bids shall be submitted to Head- Technical Services, **TIFR, Survey No. 36/P, Gopanpally (Village), Serilingampally (Mandal), Ranga Reddy Dist, Hyderabad-500046** in a sealed Master envelope super scribed “Bid for **Supply, Installation, Testing & Commissioning of Fire Alarm System & Fire Fighting works and other related works for Nutrition Facility, Plot-B, TIFR, Survey No. 36/P, Gopanpally (Village), Serilingampally (Mandal), Ranga Reddy Dist., Hyderabad- 500046** with our enquiry no. and due date, containing two separate sealed covers clearly super scribed as “**Technical Bid**” and “**Financial Bid**” before the closing date and time of submission in the following manner:

- a) “**Technical Bid**”: This will contain Technical part, Eligibility Documents along with testimonials. Earnest Money Deposit (EMD).
- b) “**Financial Bid**”: This will contain the complete bidding document with duly filled in Schedule of Financial Quote of Financial Bid & Tender Drawings.

The Bids without signature of the authorized person of bidder and seal, without EMD, with conditions or conditional rebates shall be summarily rejected.

4. EVALUATION OF BID

- 4.1. **EVALUATION OF TECHNICAL BID**: The bids received will first be first opened and will be examined for EMD/ Declaration Letter, Eligibility Criteria, Conditions, etc. Conditional Tenders and Tenders without EMD shall be summarily rejected.
- 4.2. **EVALUATION OF FINANCIAL BID**: The Financial Bid should contain the complete bid document with duly filled in Schedule of Financial Quote of Financial Bid and signed Tender drawings. Financial Bids of Technically qualified Bidders will only be opened. Work will be awarded to lowest bidder (L1) based on their quotes after making necessary arithmetical checks.

5. SCOPE & OBJECTIVE

The Objective of the tender is to **Supply, Installation, Testing & Commissioning of Fire Alarm System & Fire Fighting works and other related works for Nutrition Facility, Plot-B, TIFR, Survey No. 36/P, Gopanpally (Village), Serilingampally (Mandal), Ranga Reddy Dist., Hyderabad- 500046** as per the specifications and Bill of quantities mentioned in the Financial Bid.

Period of Completion of Work: 90 days from the date of issue of work order

Defect Liability Period: 12 months from the date of handing over of completed system as per tender.



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6. PAYMENT SCHEDULE:

The contractor shall submit the bills for payments along with a detailed statement showing the actual works carried out under different heads of items in the format specified by the TIFR. Minimum value of the work for interim payment (Two Running Bills) shall be **35% on Work order value**. All interim (Maximum Two Running Bills) and final bills will be settled based on the joint measurements of each item of work and certified by TIFR Engineer. The bills for nonperishable materials on site may also be submitted and the payment by TIFR against the same shall be to the maximum extent of 60% of the value of these materials on production of sufficient documentary evidence ie. Original invoice, Inventory, etc. All interim bills will be paid within **15** days from the date of submission and Final Bill along with all relevant documents will be settled within **30** days from the date of submission with certification of TIFR Engineer.

SECTION-II

ELIGIBILITY CRITERIA FOR TENDER QUALIFICATION



Supply, Installation, Testing & Commissioning of Firefighting system for Hanger Building-II, Plot-B, TIFR, Survey No. 36/P, Gopanpally (Village), Serilingampally (Mandal), Ranga Reddy Dist., Hyderabad- 500046

• **Eligibility criteria:**

1. The Agencies/Contractors shall hold a valid labour license issued by appropriate authority and must be valid throughout the contractual period.
2. IT Returns for the last three consecutive financial years ended on March 31, 2023.
3. The Agencies/Contractors should have a latest solvency certificate issued by any nationalized bank of value not less than Rs.5.8 Lakhs.
4. The Agencies/Contractors should have an average annual turnover of Rs.3.75 lakhs during three previous financial years ending March 31, 2023 audited by CA.
5. The Agencies/Contractors shall be in profit for the last three financial years and should have valid PAN from Income Tax Authority, GST registration No. etc. and any other registration applicable/mandatory for contract.
6. The Agencies/Contractors should have executed similar works successfully at least
 - 6.1. One similar work costing Rs.7.49 Lakhs or
 - 6.2. Two similar works costing Rs.5.62 Lakhs or
 - 6.3. Three similar works costing Rs. 3.75 Lakhs during the last 7 financial years ended on end date of receiving tender for Research Institutes, Universities, Private Laboratories, R & D institutes, etc. in any Government /PSU/Private organizations of repute.

The Agencies/Contractors should furnish copies of work orders and completion certificates from the clients in support of the above.

Note:

- ❖ Agencies/Contractors should have a full-fledged in-house project management team to undertake the jobs.
- ❖ The Agencies/Contractors shall **strictly furnish** aforesaid information in the formats/schedules given. **Non adherence to furnishing of information in the given format/schedules given will lead to disqualification of tender.**
- ❖ Instructions to Agencies/Contractors for furnishing the information is given as under:
 - Each page of the application shall be signed by a person having necessary authority to do so.
 - If the space in the proforma is insufficient for furnishing full details, such information may be given in separate sheets.
 - Applicants are required to furnish information against each item of the application. In case a certain item is not applicable, please write NA. Application containing incorrect and or inadequate information is liable to be rejected.

SCHEDULE – A
BASIC INFORMATION



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1. Name of the firm :
2. a) Address :

- b) Telephone / Fax No. :
- c) Mobile No. Contact Person :
- d) PAN No. :
- e) GST Registration No. :
- f) Labour License Details :
- g) Electrical A grade License Details :
- h) Branch Office if any in Hyderabad :
3. Type of Organization :
(Proprietorships / Partnership) Ltd. Co. /
Co-Operative) (Copy of relevant document
to be enclosed)
4. Date of Incorporation :
5. Nature of Business :
6. Experience as prime Agencies/
Contractors (in Yrs.) :
7. Name and address of Bankers :
8. Organization chart of the Company :
including names and positions of directors
/ key personnel

Signature of the Applicant (s)



SCHEDULE – B

Major Electrical works (Copies of the completion certificate to be enclosed)

A. Similar work of costing Rs.7.49 lakhs or two similar works of costing Rs.5.62 lakhs or 3 similar works of costing Rs.3.75 Lakhs during last 7 financial year ending March 31st 2023 for Research Institutes, Universities, Private Laboratories, R & D institutes, etc

Sr.No	Name of the project & Address	Description of work in brief	Name of the Engineer	Name of the client also indicate whether Govt or semi Govt or Pvt body with full postal address	Contract Amount in Rs.	Year of commencement	Date of Completion		Whether work was left /uncompleted or the contract was terminated from either side? Give Details.	Any other relevant information relevant information
							Stipulated	Actual		
1.										
2.										

B. List of works in progress above Rs.3.75 lakhs.

Sr No.	Name of the project & Address	Description of work in brief	Name of the Engineer with full postal address.	Name of the Client. Also indicate whether Govt. or semi Govt. or Pvt. Body with full postal address	Contract Amount in (Rs.)	Date of Completion	Present stage of work with reasons if the work is getting delayed	Any other relevant information
1.								
2.								

Signature of the Applicant (s)



SCHEDULE – C

TECHNICAL PERSONNEL & SPECIAL EXPERIENCE

List of technical personnel in your establishment giving details about their technical qualification and experience

Sr No.	Name	Age	Qualifications	Project Experience	Nature of works handled	Name of the project Handled	Date from which employed in your organization	Indicate special experience in Fire Alarm System & Fire Fighting Installation & Testing projects in which were employed
1								
2								

2. Indicate other points if any to show your technical and managerial competency to indicate any important point in your favour.

Signature of the Applicant (s)



SCHEDULE – D

FINANCIAL POSITION AND WORKING RESULTS

		2020-21	2021-22	2022-23
1.	Annual turnover	:	Rs.	
2.	Net Profit	:	Rs.	
3.	Credit Facilities from the Bank	:	Rs.	
	a) Cash Credit	:	Rs.	
	b) Overdraft Limit	:	Rs.	
	c) Guarantee	:	Rs.	
	d) Others	:	Rs.	
4.	Certificate from the Bankers regarding financial soundness of the applicant	:	Enclosed (Yes / No)	
5.	Solvency Certificate from the Bankers	:	Enclosed (Yes / No)	

Signature of the Application (s)



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SCHEDULE – E
MISCELLANEOUS INFORMATION

- 1 Whether it would be possible to process Bank Guarantee for various advances during execution of the work. :
- 2 Details of Civil Suits / Litigations arised during execution of the contracts in the last 5 years. :
- 3 Latest Income Tax Clearance Certificate :
- 4 Name of the two senior official of Organizations preferably Govt./Semi Govt/ Autonomous/ Public Sector Organization for whom you have executed important and major Electrical works, who may be directly contracted by TIFR to gather information about your ability, competence and capacity of your work/organization/etc. :
- 5 Number of Supplementary sheets attached. :

Signature of the Applicant (s)



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SECTION-III

NOTICE & INSTRUCTIONS

1. **Sealed item rate tenders** in the prescribed form are invited from Head-Technical Services, Tata Institute of Fundamental Research, Centre for Interdisciplinary Services, Hyderabad, for the following:

Tender Notice No.	TIFR/PD/CF23-125/231024
Name of Work	Supply, Installation, Testing & Commissioning of Fire Alarm System & Fire Fighting works and other related works for Nutrition Facility, Plot-B, TIFR, Survey No. 36/P, Gopanpally (Village), Serilingampally (Mandal), Ranga Reddy Dist., Hyderabad- 500046
Estimated Cost	Rs.9,36,561/-
Time Limit	90 days (Completion Period)
Earnest Money Deposit	Rs.18,731/- (Demand Draft to be drawn in favour of "TIFR Center for Interdisciplinary Sciences", Payable at Hyderabad (To be enclosed with the Technical Bid Part – I)
Tender Fee	Rs.500/- (Rupees Five Hundred only)
Last Date & Time of Submission of Tender	17.11.2023 by 13:00 Hrs
Date & Time of Opening of Technical Bid	17.11.2023 at 15:30 Hrs

2. **Submission of Tender & Opening:**

Tenders shall be submitted in a sealed envelope super scribed with Tender enquiry No., Due Date and with heading as **"Supply, Installation, Testing & Commissioning of Fire Alarm System & Fire Fighting works and other related works for Nutrition Facility, Plot-B, TIFR, Survey No. 36/P, Gopanpally (Village), Serilingampally (Mandal), Ranga Reddy Dist., Hyderabad- 500046"** containing two separate sealed covers clearly super scribed as **"TECHNICAL BID"** and **"FINANCIAL BID"** on or before the closing date and time of submission in the following manner:

"TECHNICAL BID": This will contain the following:



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- a) Proof of Tender Cost paid already
 - b) Earnest Money Deposit as stipulated
 - c) Schedules giving information on Eligibility Criteria with supporting documents specified for tender qualification.

“FINANCIAL BID”: Signed copy of the Financial Bid quoting amount in the stipulated format and signed copies of the tender drawings.

5. Acceptance of Tender: The competent authority, on behalf of TIFR, Hyderabad does not bind itself to accept the lowest or any other tender, and reserves to himself the authority to reject any or all the tenders received, without assignment of any reason. All tenders, in which any of the prescribed conditions is not fulfilled or any condition, including that of conditional rebates, is put forth by the tenderer, shall be summarily rejected.

The Competent Authority, on behalf of TIFR, Hyderabad reserves to itself the right of accepting the whole or any part of the tender and the tenderer shall be bound to perform the same at the rates quoted. The officer inviting tenders shall have the right of rejecting all or any of the tenders and will not be bound to accept the lowest tender or any other tender.

6. Validity of Tender: The tender for the work shall remain open for acceptance for a period of 75 days from the last date of submission of tenders. If any tenderer withdraws his tender before the said period, or before issue of Letter of Intent, whichever is earlier, or makes any modifications in the terms and conditions of the tender which are not acceptable to the Department, then TIFR, Hyderabad shall, without prejudice to any other right or remedy, be at liberty to forfeit 50% of the said earnest money absolutely. Further the tenderer shall not be allowed to participate in the retendering process of the work.

7. Levy / Taxes payable by contractor:

- i. GST or any other tax on materials and services in respect of this contract shall be payable by the contractor and TIFR shall not entertain any claim whatsoever in this respect.
- ii. The contractor shall deposit royalty and obtain necessary permit as required for supply of the sand, aggregate, stone etc. from local authorities.

8. Deduction of Income Tax : As per Section 194-C of Income tax Act 1961, as amended by letter No. 275/9/72/9-TJ (Circular No. 86) dated 19.5.72 and No. 275/14/91-IT (B) (Circular No. 593) dated 5.2.91, received from Ministry of Finance, Department of Revenue, Central Board of Direct Taxes, New Delhi, the Income tax @ 2% and Surcharge thereon @12% (or any other amended rate



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by Ministry of Finance from time to time), of the gross value of the work done will be recovered from the bills. A certificate for the amount so recovered will be issued by the Department.

9. Site visit by the tenderer before tendering: Tenderers are advised to inspect and examine the site and its surroundings during working hours and satisfy themselves before submitting their tenders as to the nature of the ground and sub-soil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their tender. A tenderer shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charges consequent on any misunderstanding or otherwise shall be allowed.

10. Signing of Tender and receipts for payments: In the event of the tender being submitted by a firm, it must be signed separately by each partner thereof or in the event of the absence of any partner, it must be signed on his behalf by a person holding a power-of-attorney authorizing him to do so, such power of attorney to be produced with the tender, and it must disclose that the firm is duly registered under the Indian Partnership Act-1952. Receipts for payments made on account of work, when executed by a firm, must also be signed by all the partners, except where contractors are described in their tender as a firm, in which case the receipts must be signed in the name of the firm by one of the partners, or by some other person having due authority to give effectual receipts for the firm.

11. Tenderer's responsibilities: The tenderer shall be responsible for arranging and maintaining at his own cost all materials, tools & plants, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a tender by a tenderer implies that they have read this notice & all other contract documents, and has made himself aware of the scope & specifications of the work to be done and local conditions and factors having a bearing on the execution of the work.

12. Signing of contract: The Notice Inviting Tender shall form a part of the contract document. The successful tenderer / contractor, on acceptance of his tender by the Accepting Authority, shall, within 15 days from the stipulated date of start of the work, sign the contract consisting of: the Notice Inviting Tender, all the documents including all conditions, specifications and drawings, if any, forms the tender as issued at the time of invitation of tender and acceptance thereof together with any correspondence leading thereto.

13. Canvassing, either directly or indirectly, in connection with the tenders is strictly prohibited and the tenders submitted by the contractors who resort to canvassing will be liable to rejection and may be barred from future participation in TIFR works.

Head-Technical Services

For and on behalf of TIFR, Hyderabad



SECTION-IV

GENERAL CONDITIONS OF CONTRACT

1. Definition of Terms:

- 1.1. In constructing these general conditions and the specifications the following works shall have the meanings herein assigned to them unless there is something in the subject or context inconsistent with such construction.
- 1.2. The 'Purchaser' shall mean Tata Institute of Fundamental Research- -Hyderabad, Tata Institute of Fundamental Research, 36/P, Gopanpally Village, Serilingampally Mandal, Ranga Reddy District, Hyderabad 500046 and shall include the Purchaser's heirs, successors and assigns.
- 1.3. The term 'Engineer In-Charge' and 'Engineer' shall mean Engineer In-Charge, TIFR-Hyderabad or some other person for the time being or from time to time duly appointed in writing by the Purchaser to act as Engineer In-Charge for the purpose of the Contract or in default of such appointment the Purchaser.
- 1.4. The term 'Contractor'/'Supplier'/'Bidder'/'Vender' shall mean the Bidder whose tender has been accepted by the Owner and shall include the Bidder's heirs, successors and assigns approved by the Purchaser:
- 1.5. The term 'Sub-Contractor' shall mean the firm or persons named in the contract for any art of the work or any person to whom any part of the work has been sublet with the consent in writing of the Engineer In-Charge and shall include his heirs, successors and assigns approved by the Purchaser.
- 1.6. The Term 'Inspector' shall mean any person appointed by or on behalf of the Purchaser to inspect supplies, stores or work under the contract or any person deputed by the Inspector for the purpose.
- 1.7. The term 'Particulars' shall mean, the following :
 - 1.7.1. Specifications
 - 1.7.2. Drawing (ANNEXURE-IV)
 - 1.7.3. Sealed Pattern denoting a pattern sealed and signed by the Inspector.
 - 1.7.4. Proprietary make denoting the product of an individual firm.
 - 1.7.5. Any other details governing the construction, manufacture and/or supply as existing for the contract.
- 1.8. The term 'Specification' shall mean the specifications annexed to or issued with these Conditions of Contract.
- 1.9. The term 'Site' shall mean the place or places at which the Equipment is to be delivered or work done by the Contractor; and shall include, where applicable, the lands and buildings upon or in which the works are to be executed and shall also include the place or places at which fabrication and other work is being carried out by the Contractor.
- 1.10. 'Electrical Equipment', 'Stores', 'Work' or 'Works' shall mean and include equipment and materials to be provided and work to be done by the Contractor under the Contract.



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-
- 1.11. The 'Contract' shall mean acceptance of the work order placed on contractor/supplier under section (2) of these conditions and shall include these conditions of Contract, Specifications, Schedule, Drawing, Letter of Intent of the Purchaser and any subsequent amendments mutually agreed upon.
 - 1.12. 'Tests on Completion' shall mean such tests which are prescribed by the specifications or have been mutually agreed to between the Contractor/Supplier and the Purchaser to be made before the equipment is taken over by the Purchaser.
 - 1.13. 'Writing' shall include any manuscript, typewritten or printed statement under or over signature or seal as the case may be. Words importing 'person' shall include firms, companies, corporations and association of individuals whether incorporated or not.
 - 1.14. Words importing singular shall also include plural and vice versa where context requires.
 - 1.15. Bidders are advised to visit and inspect the work-site to make themselves fully conversant with the site conditions and nature of work. Any claim by them after the opening of bids on account of themselves being unaware of any site condition shall not be entertained.

2. Contract

Contractor/Supplier/Manufacturer should send their acceptance letter on receipt of 'Letter of Intent' or 'Work Order' or 'Purchase Order' within the stipulated period. On expiry of said period or exorbitant delay in commencing or executing the work, the Purchaser shall not be liable to any claim from the Contractor/ Supplier for work entrusted to and may revoke the contract.

3. Work at Site

- 3.1. Access to the works shall be allowed only to the Contractor/Supplier, Sub-Contractors or his duly appointed representatives. The Contractor/ Supplier shall not object to the execution of other works by other contractors or tradesmen and shall afford them every facility for execution of their several works simultaneously with his own.
- 3.2. Work at the Purchaser's premises shall be carried out at such time as the Purchaser may approve but the Purchaser shall give the Contractor/ Supplier all reasonable facilities for the same. The Contractor/Supplier shall provide sufficient fencing, notice boards etc. to guard the works and warn the public.
- 3.3. The Contractor shall obey Central, Local and State regulations and enactments pertaining to workmen and labour and the Engineer In-Charge shall have the right to enquire into and decide all complaints on such matters. The Contractor should comply with the Minimum Wages Act and should also ensure that safe practices are followed by his people at site.

4. Delays

The Contractor/Supplier shall not be entitled to any compensation for any loss suffered by him on account of delays in commencing or executing the work, whatever the cause for such delays may



be, including delays in procuring Government controlled or other materials and delay in obtaining instructions and decisions from the Engineer In-Charge.

5. Taking Over

The equipment when erected at site shall be deemed to have been taken over by the Purchaser when the Engineer In-Charge will have certified in writing that the equipment has fulfilled the contract conditions.

6. Extension of Time

If the Contractor/Supplier is delayed in the progress of work by changes ordered in the work, or by any cause, which the Engineer In-Charge shall decide to justify the delay, then the time of completion shall be extended by a reasonable time. In this regard, Contractor shall maintain proper hindrance register and record all such events with due signature of E-I-C on occurrence of such instants for seeking extension of time. However, no such extension shall be allowed unless requested for extension is made in writing by the Contractor/Supplier to the Engineer In-Charge within 15 days from the date of occurrence of the delay.

7. Liquidated Damages

- 7.1. For all delays, which do not merit any extension of time, the Contractor/ Supplier shall attract 1% penalty per week for the first 4 weeks of delay and 2% penalty per week for the next 4 weeks of the total contract value. The amount of liquidated damages shall be recoverable from the payment due to the Contractor/Supplier up to maximum of 10% of value of contract.
- 7.2. The deduction of liquidated damages shall not, however, absolve the Contractor/Supplier of his responsibility and obligations under the contract to complete the work in its entirety and shall also be without prejudice to action by the Purchaser under clause:

`Termination of Contract by the Purchaser`. After that the same shall be completed by the Purchaser at the Contractor's/Supplier's risk and cost.

8. Other Damages:

- 8.1. The Contractor/Supplier/Manufacturer shall be responsible for all injury to persons, animals or things and for all damage to the works, structure of, and decorative work in the property which may arise from operation or neglect of himself or any of his Subcontractor or of his or Sub-Contractor's employees, whether such injury or damage may arise from carelessness, accident or any other cause whatever in any way connected with the carrying out of this contract. This clause shall be held to include any damage to buildings, whether immediately adjacent or otherwise, any damage to roads, streets, foot paths, as well as all damage caused to the works forming the subject of this contract by frost or other inclemency of weather. The Contractor/Supplier shall indemnify the Purchaser and hold him harmless in respect of all and any expenses on property as aforesaid and also in respect of any claim made in respect of injury or damage under any acts of Government or otherwise and also in respect of any award of compensation or damages consequent upon such claim. Contractor shall furnish necessary insurance documents (Contractor All Risk Policy) taken for the site before commencement of work.



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- 8.2. The Contractor/Supplier/Manufacturer shall reinstate all damage of every sort mentioned in this clause, so as to deliver up the whole of the contract works complete and perfect in every respect and so as to make good or otherwise satisfy all claims for damage to the property of the Owner/third parties.
- 8.3. The Contractor/Supplier/Manufacturer shall indemnify the Purchaser against all claims which may be made against the Purchaser, by any member of the public or other party, in respect of anything which may arise in respect of the works or in consequence thereof and shall, at his own expense, effect and maintain, until the work has been 'Taken Over' under clause 5.
- 8.4. The Contractor/Supplier/Manufacturer shall also indemnify the Purchaser against all claims which may be made upon the Purchaser whether under the Workmen's Compensation Act or any other statute in force during the currency of this contract or at common law in respect of any employee of the Contractor/Supplier or of any of his sub-contractor and shall at his own expense effect and maintain until the work has been 'Taken Over', with an approved office. Contractor shall furnish a copy of the labour licence before commencement of work. If the aforesaid are not applicable contractor should furnish declaration to this effect and shall indemnify TIFR-Hyderabad, Hyderabad for violation of any such compliances.
- 8.5. The Purchaser, with the concurrence of the Engineer In-Charge, shall be at liberty and is hereby empowered to deduct the amount of any damages compensation costs, charges and expenses arising or accruing from or in respect of any such claims or damages from any sums due to or become due to the Contractor/Supplier.

9. Earnest Money Deposit and Performance Guarantee/Security Deposit:

- 9.1. **Earnest Money Deposit (EMD):** EMD shall be submitted in the form of Demand Draft to be drawn in favour of "TIFR Centre for Interdisciplinary Sciences", Payable at Hyderabad (To be enclosed with the Technical Bid Part-I))
- 9.2. **Performance guarantee:** The tenderer, whose tender is accepted, will be required to furnish a performance guarantee/security deposit of **2.5% of the tendered amount within 7 (seven) working days from the date of intimation** ie (including adjustment of EMD amount submitted). This guarantee shall be in the form Demand Draft / Pay Order / Banker's cheque / Deposit or Government Securities / Fixed Deposit Receipt (FDR) or Guarantee Bonds (BG) of any Scheduled Bank in accordance with the form as Annexure – II hereto. In case a fixed deposit receipt of any Bank is furnished by the contractor to TIFR as part of the performance guarantee and the Bank is unable to make payment against the said fixed deposit receipt, the loss caused thereby shall fall on the contractor and the contractor shall forthwith on demand furnish additional security to TIFR to make good the deficit.
- 9.3. The Performance Guarantee shall be initially valid up to the stipulated date of completion **plus 60 days** beyond that. In case the time for completion of work gets enlarged, the contractor shall get the validity of performance Guarantee extended to cover such enlarged time for completion of work. The performance guarantee/security deposit shall be returned to the contractor, without



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any interest, after recording of the completion certificate for the work by the competent authority..

- 9.4. The Engineer-in-charge shall make a claim under the Performance guarantee/Security Deposit for amounts to which TIFR is entitled under the contract (notwithstanding and / or without prejudice to any other provisions in the contract agreement) in the event of:
 - 9.4.1. Failure to attend and rectify the problems in the guarantee period, in which event the Engineer-in-charge may claim the full amount of the Performance guarantee/Security Deposit.
 - 9.4.2. Failure by the contractor to pay TIFR, Hyderabad any amount due, either as agreed by the contractor or determined under any of the Clauses / Conditions of the agreement, within 30 days of the service of notice to this effect by Engineer-in-charge.
- 9.5. In the event of the contract being determined under provisions of any of the relevant clauses of the agreement, the performance guarantee/security deposit shall stand forfeited in full and shall be absolutely at the disposal of TIFR, Hyderabad.

1. Security Deposit:

The tenderer, whose tender is accepted, will also be required to furnish by way of Security Deposit for fulfillment of his contract, an amount equal to 5% of the tendered value of the work. Earnest Money deposited at the time of tenders will be treated as part of the Security Deposit.

or

The successful tenderer shall permit TIFR, Hyderabad at the time of making any payment to him for work done under the contract to deduct a sum at the rate of 5% of the gross amount of each running bill till the sum along with the sum already deposited as earnest money, will amount to security deposit of 5% of the tendered value of the work. Such deductions will be made and held by TIFR by way of Security Deposit unless he has / they have deposited the amount of Security at the rate mentioned above in cash or in the form of Fixed Deposit Receipts.

In case a fixed deposit receipt of any bank is furnished by the contractor to TIFR, Hyderabad as part of the security deposit and the bank is unable to make payment against the said fixed deposit receipt, the loss caused thereby shall fall on the contractor and the contractor shall forthwith on demand furnish additional security to TIFR, Hyderabad to make good the deficit.

All compensation or the other sums of money payable by the contractor under the terms of this contract may be deducted from, or paid by the sale of a sufficient part of his security deposit or from the interest arising there from, or from any sums which may be due to or may become due to the contractor by TIFR or any account whatsoever and in the event of his Security Deposit being reduced by reason of any such deductions or sale as aforesaid, the contractor shall within 10 days make good in cash or fixed deposit receipt tendered by the State Bank of India or by scheduled banks (if



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deposited for more than 12 months) endorsed in favour of the TIFR, HYDERABAD, any sum or sums which may have been deducted from, or raised by sale of his security deposit or any part thereof.

Security Deposit shall be initially valid up to the one year from the date of completion of work. In case the time for completion of work gets enlarged, the contractor shall get the validity of Security Deposit extended to cover such enlarged time for completion of work. The Security Deposit shall be returned to the contractor, without any interest, after completion of defect liability period.

Security Deposit as deducted above can be released against Bank Guarantee issued by a Scheduled Bank on its accumulation to a minimum of Rs.5 Lakhs subject to the condition that amount of such Bank Guarantee, except last one, shall not be less than Rs.5 Lakhs. Bank Guarantee should be submitted which will be valid up to the expiry of defect liability period.

10. Guarantee and Defects Liability Period:

- 10.1. The Contractor/Supplier/Manufacturer shall guarantee that all equipment shall be free from any defect due to the defective materials and bad workmanship and that the equipment shall operate satisfactorily and that the performance and efficiencies of the equipment shall be not less than the guaranteed values. The guarantee shall be valid for a period of 12 months after the date of commissioning as certified by the Engineer In-Charge. Any parts found defective shall be replaced free of all costs by the Contractor/Supplier. The services of the Contractor's/Supplier's personnel if requisitioned during this period for such work shall be made available free of any cost to the Purchaser.
- 10.2. If the defects be not remedied within a reasonable time, the Purchaser may proceed to do so at the Contractor's/Supplier's risk and expense without prejudice to any other rights.

11. Terms of Payment

The contractor will be paid only Two Running Account (RA) Bills and Final Bill considering the progress of works based on measurement of works completed. The contractor shall submit the bills for payments along with a detailed statement showing the actual works carried out under different heads of items in the format specified by TIFR-, Hyderabad. Minimum value of the work for interim payment shall be **35% on Work order value.**

BILL FORMAT

<u>Tender Item</u>	<u>Description of Item (At least 2 lines)</u>	<u>Unit</u>	<u>Tender Qty</u>	<u>Executed Qty</u>	<u>Rate</u>	<u>% work done</u>	<u>Amount</u>

NOTE: All quantities in the bill should be cumulative.



All measurements should be in the order of tender sequence and should be recorded in the measurement book. The Measurement should be strictly in the below mentioned format only.

MEASUREMENT FORMAT

Tender Item	Description of Item & Location against each Measurement taken	Nos.	Length	Breadth /width	Height	Qty.	Remarks

The works which have been certified for running bills will also be verified along with the final bill and any defects found need to be replaced / rectified by the contractor at his cost. Till the time, the site is handed over in full, it is the contractor's liability to safeguard the works done and completed at site. The Progress of work should not be affected in any way quoting the reason of non-availability of funds / materials / releasing of Running bill. The liability of the contractor is to complete all works in his scope in the scheduled time as per the terms of contract and will not relieve the contractors from his obligations once the Running bill is paid / kept pending.

Final Payment

Payments of Final bill shall be made after deduction of Performance guarantee as specified. The Security Deposit / Performance guarantee, shall be refunded on expiry of the Defects Liability Period after rectifying all defects to the satisfaction of the TIFR-Hyderabad/E.I.C. The acceptance of payment of the final bill by the Contractor would indicate that he would have no further claim in respect of the work executed.

12. Special conditions of Contract governing supplies of the Equipment of this Tender:

12.1. Scope:

- 12.1.1. This specification covers the supply of material as per the enclosed details and quantities and supervision of erection/installation, testing and commissioning of the material.
- 12.1.2. The Contractor/Manufacturer/Supplier shall quote for all the materials along with accessories as mentioned in the enquiry.
- 12.1.3. All the supply shall be in accordance with relevant I.S. Specifications and recognized standards.

12.2. Inspection & Testing of Material:



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- 12.2.1. Contractor/Manufacturer/Supplier shall submit the lists of Type Tests and Routine Tests to be conducted on the material in the Technical Data Sheet.
- 12.2.2. All the materials shall be tested at factory as per IS Specifications of material by Purchaser's Engineer In-Charge/Engineers before dispatch at the cost of Contractor/Manufacturer/Supplier.
- 12.2.3. Contractor/Manufacturer/Supplier shall inform the concerned Engineer In-Charge for inspection and testing in accordance and fix up a suitable date for the same.
- 12.3. **Test Certificates:**
Contractor/Manufacturer/Supplier shall submit the Test Certificates of all materials.
- 12.4. **Delivery of Material:**
- 12.4.1. The Contractor/Manufacturer/Supplier shall arrange for safe transit and shall be held responsible for loading of all equipment and for the stores being sufficiently and properly packed for transport by rail, road, sea or air so as to ensure their being free from any loss or damage on arrival at destination. The packing and marking of packages shall be done by and at the expenses of Manufacturer/Supplier. Each package shall contain a packing note quoting purchase order number and detail of the contents.
- 12.4.2. All the materials must be delivered at site i.e. Hyderabad - TIFR at 36/P, Gopanpally Village, Serilingampally Mandal, Ranga Reddy District, Hyderabad-500046. The unloading and positioning of all equipment at the designated locations specified by the Engineer In-Charge shall be in the scope of the Supplier. The Supplier shall arrange for handling equipment, labour for rigging, etc. as required.
- 12.4.3. Material must be delivered at site in all respects as mentioned in the Purchase Order.
- 12.4.4. **Contractor shall arrange necessary storerooms and security at site to store materials. TIFR shall not be responsible for any missing/theft of materials at site.**
- 12.5. **Guarantee:**
If during the period of guarantee any fault or defect arises, the material shall be replaced/repared immediately free of cost, as well as any replacement of accessories required shall be done free of cost.
- 12.6. **Mistake in Drawing:** The Contractor/Supplier shall be responsible for and shall pay for any alterations in works due to any discrepancies, errors or omissions the drawings or other particulars supplied by him whether such drawings or particulars have been approved by the Purchaser or not.
- 12.7. **Responsibility for Completeness:**
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Any fittings or accessories which may not be specifically mentioned in the specifications but which are usual or necessary are to be provided by the Contractor/Supplier without extra charge and the equipment must be complete in all details.

12.8. **Extra/Deviation items & Variations in quantity**

TIFR-Hyderabad has the right to omit/delete any of the items and also increase/decrease the quantities mentioned in the tender. No claim or any compensation in this regard will be accepted or paid to the contractor. However, if any new /additional items/deviated items are to be executed, the contractor is bound to execute such items with prior approval from TIFR-Hyderabad after furnishing the proper rate analysis for such extra/deviated items

12.9. **Rejection of Defective Equipment:**

- 12.9.1. If the equipment after the acceptance thereof is discovered to be defective, notwithstanding that such defects could have been discovered at the time of inspection or found to have failed to fulfill the requirements of the contract or developed defects after the erection within a period of 12 months from the date of erection, even if such erection is done by the Purchaser, he shall be entitled to give a notice on the Contractor/Supplier setting forth details of such defects or failure and the Contractor/Supplier shall, provided such notice is given within a period of 14 months from the date of such erection or acceptance, forthwith make the defective equipment good or alter the same to make it comply with the requirements of the contract at his own cost and further if in the opinion of the Purchaser, the defects are of such a nature that the defects cannot be made good or required without impairing the efficiency or workability of the equipment or if in the opinion of the Purchaser the Equipment cannot be repaired or altered to make it comply with the requirements of the Contract, the Contractor/Supplier shall, provided a notice given by the Purchaser in this behalf within a period of 14 months from the date of erection or acceptance thereof, remove and replace the same with the equipment conforming to the stipulated particulars, in all respects at the Contractor's/Supplier's own cost. Should he fail to do so within a reasonable time, the Purchaser may reject and replace, at the cost of the Contractor/Supplier, with equipment of the same particulars or if equipment conforming to the stipulated particulars are not in the opinion of the Purchaser readily procurable, such opinion being final, then with the nearest substitutes.
- 12.9.2. In the event of such rejection the Purchaser shall be entitled to use the Equipment in a reasonable and proper manner for a time reasonably sufficient to enable him to obtain replacement equipment as herein before provided.



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12.10. **Inspection and Final Tests:**

All tests necessary to ensure that the Equipment complies with the particulars and guarantee shall be carried out at such place or places as may be determined by the Inspector. Should, however, it be necessary for the final test as to performance or guarantee to be held over until the Equipment is erected at site they shall be carried out within one month of completion of erection.

12.11. **Intimation about Delivery:**

If the Purchaser shall have notified the Contractor/Supplier in writing that the former is not ready to take delivery, no equipment or materials shall be forwarded until an intimation in writing shall have been given to the Contractor/Supplier by the Purchaser that he is ready to take delivery.

12.12. **Delay in erection:**

Wherever erection of an equipment or machinery is the responsibility of the Contractor/Supplier as a term of the contract and in case the Contractor fails to carry out the erection as and when called upon as to do within the period specified by the Purchaser, the Purchaser shall have right to get the erection done through any source of his choice. In such an event, the Contractor/Supplier shall be liable to bear any additional expenditure that the Purchaser may incur towards erection. The Contractor/Supplier shall, however not be entitled to any gain due to such an action by the Purchaser.

12.13. **Definition of Equipment:**

The work 'Equipment' wherever, it appears in these 'Special Conditions of Contract' governing supplier of Equipment in this Tender shall mean all switchgears, panels, etc. or parts thereof or what the Contractor/Supplier agrees to supply under Contract as specified in the work order.

12.14. **Force Majeure:**

Normally Force Majeure shall cover only acts of God, fire, wars, strike, riots and civil commotion, floods, epidemic, quarantine related strikes, freight embargoes, etc. The contractor shall not be liable for any liquidated damages for delay or any failure to perform the contract arising out of Force Majeure conditions, provided that the contractor shall within ten days from the beginning of such delay notify the department in writing the cause of delay along with convincing supporting evidence. The department once convinced and accepted the reason may extend the supply completion period by a suitable / reasonable margin.

12.15. **Termination of Contract by the Purchaser:**

- 12.15.1. If the Contractor/Supplier commits any 'Act of Insolvency' or shall be adjudged an Insolvent or shall have an order for compulsory winding up made against him or pass effective resolution for winding up voluntarily, or if the Contractor/Supplier shall suffer any payment under this



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contract to be attached by or on behalf of any of the creditors of the Contractor/ Supplier, or shall assign the Contract without the prior consent in writing of the Engineer In-Charge, or shall charge or encumber this Contract or any payments due or which may become due to the Contractor/Supplier there under, or if the Engineer In-Charge shall certify in writing to the Purchaser that the Contractor/Supplier –

- 12.15.1.1. has abandoned the Contract, or
- 12.15.1.2. has failed to commence the works, or has without any lawful excuse these conditions suspended the progress of the works for seven days after receiving from the Engineer In-Charge written notice to proceed, or
- 12.15.1.3. has failed to proceed with the work with such due diligence and failed to make such due progress as would enable the works to be completed in accordance with the approved programme of work,, or
- 12.15.1.4. has failed to remove materials from the site or to pull down and replace work for seven days after receiving from the Engineer In-Charge written notice that the said materials or work were condemned and rejected by the Engineer In-Charge under these conditions, or
- 12.15.1.5. has neglected or failed persistently to observe and perform all or any of the acts matters or things by this contract to be observed and performed by the Contractor for seven days after written notice shall have been given to the Contractor/ Supplier requiring the Contractor/Supplier to observe or perform the same, or
- 12.15.1.6. has to the detriment of good workmanship or in defiance of the Engineer In-Charge's instructions to the contrary sub-let any part of the contract, then and in any of the above said causes, the Purchaser with the written consent of the Engineer In-Charge may, notwithstanding any previous waiver, after giving seven days' notice in writing under the provisions of this clause to the Contractor/Supplier, determine the contract but without prejudice to the powers of the Engineer In-Charge or the obligations and liabilities of the Contract, the whole of which shall continue to be in force as if the contract has not been so determined and as if the work subsequently executed has been executed by and on behalf of the Contractor/ Supplier.
- 12.15.2. After the issue of such notice, the Contractor/Supplier shall not be at liberty to remove from site any equipment, tools and materials belonging to him which shall have been placed thereon for the purpose of the works and the Purchaser shall have lien upon such equipment, tools or materials to subsist from the date of such notice and until the notice shall have been complied with.
- 12.15.3. If the Contractor/Supplier shall fail to comply with the requirements of said notice for seven days after such notice has been given, the Purchaser shall have the power to enter upon and take possession of the works and site and all equipment, tools and materials thereon, and to engage any other person, firm or agency to complete the works, utilizing the equipment, tools and materials to the extent possible. The Purchaser shall not in any way be responsible for damage or loss of the tools, equipment and materials and the Contractor/Supplier shall not have any compensation therefore.



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- 12.15.4. Upon completion of the works, the Engineer In-Charge shall certify the amount of expenditure properly incurred consequent on and incidental to the default of the Contractor/Supplier as aforesaid and such amount shall be deducted from the payments due to the Contractor/Supplier, including the Security Deposit. If the said amount exceeds the payment due to the Contractor/Supplier, the Purchaser shall be at liberty to dispose off any of the Contractor's/Supplier's materials, tools or equipment and apply the proceeds for the payments due from the Contractor/Supplier and recover the balance by process of law.
- 12.15.5. After the works have been completed after the amounts due to the Contractor/Supplier, the Engineer In-Charge shall give notice in writing to the Contractor/Supplier to remove the surplus equipment and material from site. If such equipment and materials are not removed within a period of 14 days after such notice, the Purchaser shall have the power to remove and sell the same holding the proceed less the cost of removal and sale, to the credit of the Contractor/Supplier. The Purchaser shall not be responsible for any loss sustained by the Contractor/Supplier from the sale of the equipment and material.

13. Contractor's Representative:

- 13.1. The Contractor/Supplier shall employ at least one qualified representative (ie. Electrical supervisory License with minimum 3 years of experience of similar works as stipulated by TIFR-Hyderabad in the work order) whose name shall have previously been communicated in writing to the Engineer In-Charge and approved by him to supervise the erection. Any written order or instructions given to the representative shall be deemed to have been given to the Contractor/Supplier. The Engineer In-Charge shall be at liberty to object to any particular representative/or any persons employed by the Contractor/Supplier on the work and the Contractor/Supplier shall remove the person objected to, on the receipt of the Engineer In-Charge, in writing, a request requiring him to do so and shall provide in his place another competent representative acceptable to the Engineer In-Charge.
- 13.2. The Contractor's/Supplier's representative shall be a qualified electrical/ mechanical engineer possessing adequate site experience in similar nature of works.

14. Completion Time:

Unless otherwise agreed in writing between the Purchaser and the Contractor/Supplier, the work contract shall be completed within the stipulated period mentioned elsewhere in this tender document from the date of Work/Purchase Order issued to Contractor/Supplier by the Purchaser.

15. Measurements:

All joint measurements of quantities shall be done by the Contractor at his own cost in the presence of the Engineer In-Charge or any authorized person deputed by him who will certify the routes, length and quantities etc. for the purpose of determination of the amount payable.



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- 16. Spare Parts & Manuals:**
Manufacturer/Contractor/Supplier should submit operation, maintenance and spare part list and manuals for all equipment.
- 17. Training:**
Manufacturer/Contractor/Supplier should provide training for operation and maintenance free of cost for equipment supplied.
- 18. Special Instruction for bidding process**
This tender is a two part tender. The Part-I: Technical Bid and Part-II: Financial Bid. Bidders shall seal each bid separately with a clear label on the envelope about its content. Both the bids should be submitted in a single drop two cover method. Any pricing details must not appear in the Part-I: Technical Bid.
- 19. Drawings and Documentation:**
As-built drawings as specified in this technical specifications shall be submitted by the Contractor.
- 20. Permissions and Approvals:**
All statutory permissions and approvals from Electricity authority as may be required for commissioning of the entire system shall be carried out by the contractor. All necessary documentation for obtaining such permissions and approvals shall be done by the contractor. Purchaser shall assist in providing required declarations. Statutory fees shall be paid by the purchaser.
- 21. Guarantee:**
The equipment shall be guaranteed against all design and manufacturing defects, poor workmanship etc. for a period of 12 months from the date of commissioning or 18 months from the date of supply, whichever is earlier. Any defects discovered during this period shall be rectified by the vendor free of cost to the purchaser.



SECTION-V

TECHNICAL SPECIFICATIONS

SCOPE OF WORK:

The work shall comprise entire labour including supervision and all materials necessary to make a complete installation to the entire satisfaction of the department. The term complete installation shall mean, not only major items of equipment covered by these specifications, but also incidental sundry components necessary for complete execution and satisfactory performance of the installation, with all labour charges, whether or not these have been mentioned in detail in the tender documents. The work shall include data entry, programming, start up test and demonstration, training of personnel for maintenance and operation, submission of construction and installation drawings and wiring diagrams, as built documents and system guarantee.

The Contractors' scope of work will include all items of work as per these specifications, drawings, terms and conditions of contract etc. and briefly described in schedule of quantities.

This shall include, but not be restricted to the following:-

- a) Addressable multi sensor Smoke Detectors
- b) Response Indicators
- c) Addressable Manual Call Points
- d) Microprocessor Based Modular type Intelligent Addressable Main Fire Alarm Control Panel for connecting and monitoring the Fire Detectors and other devices.
- e) Powered Low /High Intensity Hooters cum Strobe activated from the Panel.
- f) Electrical works, including Cabling, Earthing etc. for the installation.
- g) All other works associated with above items as per specifications, drawings and conditions of contract and the Fire Brigade requirements except those specifically excluded in Schedule of Quantities.

These specifications shall cover the Design, Supply, Erection, Testing, and Commissioning of Intelligent Addressable Fire Alarm Systems.

The work is to be carried out on the basis of site visit with Authority and according with the as build site drawing. The basic AutoCAD drawing will be provided. Drawings for ITC will be prepared by Bidder according to the guidance of Authority.

The Bidder have understood the proper requirement by making site visit. The equipment and their associated works such as Cabling, etc. may be re-arranged in the space allotted subject to the approval of the Office. It is the Contractor's responsibility to ensure that his work is coordinated with the work of other agencies/client



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1 SCHEDULE OF REQUIREMENTS

1.1.1 Intelligent Addressable Fire Alarm System requirements will be as per site visit / requirement of the client.

1.1.2 Tenderers are advised that the location of detectors and other accessories etc. will be as per the site condition & requirement.

1.1.3 It is the intent of these specifications to define a state-of-art integrated Fire Alarm System, which is user friendly, modular, flexible and expandable. The system is to be designed, installed, customized, tested, commissioned and supported by a local office or agent of the manufacturer by Engineers skilled in providing functional and efficient solutions to the needs of the Office.

1.1.4 All system components and sub-systems are to be fault tolerant and provide satisfactory operation without damage at + 10% of the rated voltage and at + 3 Hz variation in line frequency.

1.2 TECHNICAL DATA

1.2.1 The Tenderer shall submit comprehensive technical information for all the equipment and material. This must include but not necessarily be restricted to, all data as

1.2.2 Technical catalogues and performance Tables/ Curves of all equipment and machines must be submitted with the offer.

1.2.3 Information given by the tenderer is meant for general information only. In case of discrepancies between tender specifications and details given by the tenderer, decision of TIFR will be final and binding on Contractor unless departures are indicated by the Tenderer.

1.3 PERFORMANCE GUARANTEE AND TESTING

The Contractor shall execute the work on the basis of indicative designs and accepted by him with or without modifications or new designs submitted by after the Ordering and accepted by the Office, as the case may be. All Variations, i.e. additions, omissions or substitutions necessitated at any time for any reason whatsoever, shall be deemed to have been accepted by the Contractor as not vitiating the performance based nature of this contract. If any such variations, irrespective of whether such variations are intended to be executed by other agencies employed by this Office, have any bearing on the performance of this Contract, the same shall immediately be brought to the notice of This Office by the Contractor in writing. In any case the Contractor shall have to guarantee for due and proper performance of the works agreed to be so erected.

All equipment shall be tested at manufacturer's Works as per latest relevant BIS specifications or in the absence of IS specification approved testing methods shall be followed and Test Certificates/ Reports submitted to the TIFR. The contractor shall intimate in advance the probable date of such tests to the Office to enable their representatives to witness the tests if



they so desire. But under no circumstances shall this absolve the Contractor of his responsibility for Performance of the Equipment or System.

In addition to the above, all equipment and systems shall be tested after installation as required by various statutory authorities, certifying agencies and as required by various sections of these specifications.

The Contractor shall take full responsibility for proper operation of the entire system including debugging and proper calibration of each component and sub-system.

On completion of erection, the contractor shall thoroughly clean all the equipment, inspect and check the entire installation for correctness and completeness and furnish a detailed report on all components of the installation to TIFR.

Based on preliminary observations during the initial operation described above, necessary modifications/ repairs/ replacements/ etc. if any shall be carried out by the Contractor to the entire satisfaction of this TIFR. On successful completion of initial operation, the Contractor shall proceed with trial runs.

All equipment shall be capable of performing the duties specified in these specifications without damage, distortion or failure of any component.

The performance of various equipment individually shall not be less than quoted ratings and consumption of power shall not exceed the ratings quoted by the tendered, when tested in normal operating condition. Otherwise the equipment / material are liable for rejection.

All test instruments shall be calibrated for accuracy prior to taking the performance tests.

1.4 CODES & STANDARDS

1.4.1 The Fire Alarm system shall comply with latest requirements of EN54/UL/IS standard

1.4.2 In general the system and all components shall have EN54/UL Approval.

1.5 INSTALLATION:

1.5.1 Installation shall be in accordance with the local and state codes, as shown on the drawings, and as recommended by the equipment manufacturer.

1.5.2 All fire detection and alarm system devices, control panels and remote enunciators shall be flush mounted or surface mounted as per instructions of TIFR.

1.5.3 Manual call boxes shall be suitable for surface mounting or semi-flush mounting and shall be installed at a height of not less than 1,000 mm, or more than 1200 mm above the finished floor level.



1.5.4 At the final inspection, a factory-trained representative of the manufacturer of the major equipment shall demonstrate that the system functions properly in every respect.

1.6 DEMONSTRATION:

1.6.1 The Contractor shall completely check out, calibrate and test all connected hardware and software to ensure that the system performs in accordance with the approved specifications and sequences of operations submitted.

1.6.2 This demonstration shall consist of the following:

- Display and demonstrate each type of data entry to show site specific customizing capability.
- Demonstrate parameter changes.
- Demonstrate scan, update and alarm responsiveness.

1.7 MANUALS

1.8 The following manuals shall be provided at the time of Handing over:

1.8.1 An Operator's Manual shall contain graphic explanations of keyboard use for all operator functions specified under Operator Training.

1.9 TRAINING & HANDING -OVER

1.9.1 All training by the Contractor shall utilize manuals and as-built documentation and the on-line help utility.

1.9.2 Operator training shall include:

- Sequence of Operation review
- Sign ON - Sign OFF
- Selection of all displays and reports
- Commanding of points, keyboard
- System initialization
- Trouble shooting of sensors (determining bad sensors)
- Password modification

1.9.3 Supervisor training shall include:

- Password assignment/modification
- Operator assignment/modification
- Operator authority assignment/modification
- Point disable/enable
- Terminal and data segregation/modification.



1.10 MISCELLANEOUS:

1.10.1 The onus of incorporating the statutory requirements as per local rules and obtaining necessary approval for the fire alarm systems shall rest fully with the Contractor.

1.10.2 The installation shall be carried out using new Equipment/ Materials complying with applicable standards in a workmanship like manner. TIFR reserves the right to reject any part of installation having poor workmanship.

1.10.3 All minor Masonry, Carpentry and Civil works such as cutting / opening in Masonry Walls/ Internal Partitions, Chasing on Walls, etc. and making good the same to match existing surface shall be done by the Contractor, wherever asked for by the TIFR or authorized representative. Nothing extra shall be paid on this account.

GENERAL DESCRIPTION OF INTELLIGENT FIRE ALARM SYSTEM (IFAS)

1.1 The fire alarm panel shall operate 240V+ 10% 50Hz. The FDAS shall also be provided with a dedicated stand by power supply system (battery and charger) capable of maintaining the system for a period of not less than 24 hours after failure of ac power supply after which sufficient battery shall remain to provide full load operation for at least 30 minutes in line with IS 2189.

1.2 The cables shall be used from detectors to the alarm panel confirming to the relevant IS and from reputed manufacture.

1.3 The system should be able to detect any type of smoke, fire and heat in the respective site area.

1.4 DETAILED DESCRIPTION OF THE SYSTEM COMPONENTS:

BASIS OF DESIGN

An Addressable Modular Fire Alarm System (IFAS) shall be provided to effect total control over the life safety services required in the building.

The system shall be provided with Addressable fire alarm initiating, annunciating and control devices.

The addressable and intelligent system shall be such that smoke detectors, manual call points, etc., can be identified with point address.

The FAS shall be able to recognize normal and alarm conditions, below normal sensor values that reveal trouble condition, and above normal values that indicate either an alarm condition or the need of maintenance.

Read-out or address an actual detector location. The operator shall also be able to adjust alarm and alarm thresholds and other parameters for the smoke sensors.

Provide local numeric point address and LED display of device and current condition of the point.



The detection of the fire shall be taken at the detector level.

In the event of a fire alarm, but not in a fault condition, the following action shall be performed automatically.

- The System Alarm LED on the main fire alarm control panel shall flash.

- A local sounder shall be sounded.

- The LCD display on the main fire alarm control panel shall indicate all information associated with Fire Alarm condition including the type of alarm point and its location within the premises.

FIRE ALARM CONTROL PANEL (FACP)

The Addressable Fire Alarm Control Panel (FACP) shall be networkable type. FACP shall have its own microprocessor, software and memory.

The panel should be modular microprocessor based in nature. Each loop capacity should not be less than 99

detectors & devices.

FACP shall supervise detection circuits and shall generate an alarm in case of abnormal conditions.

FACP shall provide general purpose inputs for monitoring such functions as low battery or AC power failure.

Smoke detectors shall be powered using the FACP-based smoke detection circuits. FACP shall provide for resetting smoke detectors, fault-isolation and sensor loop operation. It shall be possible to mix different fire devices within the same FACP to optimize field wiring.

It shall be possible for the panel to have a loop length with different modules offering minimum 1 km Loop length of devices from the panel.

FACPs shall provide monitoring and control of one floor or area or for multiple floors or areas.

DETECTORS & ADDRESSABLE DEVICES

General features common to all detectors:

Built-in-response indicator: Each detector shall incorporate indicator "LED" at the detector which shall blink green in normal condition and red on actuation of the detector to locate the detector which is operated while on fire. The detector shall not be affected by the failure of the response indicator lamp. The Led **should be visible from a 360 deg view**

Maintenance: All detectors shall be fitted either with plug-in system or bayonet type connections only, from the maintenance and compatibility point of view.

Construction: The components of the detectors must not be damaged by static over voltage.

Addressable Optical Smoke Detectors

Optical smoke detectors shall be addressable devices, and shall connect with two wires to one of the Fire Alarm Control Panel loops. The detector should have an earliest detection of lightest smoke. All sensor signals should be analyzed continually by the internal evaluation electronics (Intelligent Signal Processing – ISP) and are linked with each other via an inbuilt microprocessor. The detectors shall be ceiling mounted type.



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The detectors shall provide electronic address-setting by means of configuration software/ Rotary switches. The area covered by each smoke/heat detector shall be as per EN – 54/UL guidelines.

The status Led should be multi-color and visible from a 360 deg view The Ingress of detector should be minimum IP: 42.

Addressable Optical Smoke cum Heat Detectors

Optical smoke cum Thermal detectors shall be addressable devices, and shall connect with two wires to one of the Fire Alarm Control Panel loops. The detector should have an earliest detection of lightest smoke as well as Rate of Rise Temperature and Fixed temperature. All sensor signals should analyze continually by the internal evaluation electronics (Intelligent Signal Processing – ISP) and are linked with each other via an inbuilt microprocessor. The detectors shall be ceiling mounted type

The detectors shall provide electronic address-setting by means of configuration software/ Rotary switches. The area covered by each smoke/heat detector shall be as per EN – 54/UL guidelines.

The status Led should be multi-color and visible from a 360 deg view The Ingress of detector should be minimum IP: 42.

Addressable Manual Stations

Addressable manual stations shall be provided to connect to the Fire Alarm Control Panel loops. The manual stations shall on command from the Control Panel send data to the panel representing the state of the manual station.

Stations shall be suitable for surface mounting / semi flush mount.

Projected Beam Type Smoke Detector

The projected Beam Smoke Detector is used in clear open areas where ceiling height is more and spot detector cannot work at that height/ response is very poor. Each detector consists of a transmitter and a receiver units and they provide an effective smoke detection. The detectors should be wall mounted type.

The Beam detector should have a range of detection up to 107 Mtrs (350 Feet.)

There should be six level of switch-selectable sensitivity

Built in alignment sights and tamper protection

Automatic range adjustment, signal synchronization and contamination adjustment Remote indicator plate annunciates voltage, trouble and alarm conditions

Switch selectable alarm signal delay

Auxiliary From C alarm Relay

Operating temperature -30 degree C to 54 degree C.

Addressable Monitor Modules

Programming of the input normal state "open" or "closed" independently selectable for each input

Pulse contact monitoring for detection of high resistance contacts

Monitoring of contacts for "open" and "closed" states on lines



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For flush mounting in standard electrical boxes
Addressing of interface either automatically or via code switch (allowing unique assignment of installation location to address)

Addressable Control / Relay Module:

Output should electrically isolated from loop
Switching of currents and voltages up to 2A at 30 V DC
owner supply to interface via two-wire line (line supply)
Addressing of interface either automatically or via code switch (allowing unique assignment of installation location to address)

Addressable Sounder

The NAC Sounders shall be compatible with the Fire detection and alarm panel offered.
It shall be roof mounted or wall mount type.
It shall work at the same operating voltage of detectors.
It shall generate audio alarm on command from the fire detection and alarm panel.
It shall be able to carry out self-diagnosis and automatic device mapping.
It should be able to generate at least 3 different types of tones.

Response Indicators

Remote Response Indicator shall be installed outside the areas normally kept closed to identify the detectors response even if the room is locked. These indicators shall be able to indicate the status of the corresponding detectors in these areas.

Installation

Installation shall be in accordance with the IS 2189, NEC, NFPA 72, EN 54, local and state codes, and as recommended by the major equipment manufacturer.
All fire detection and alarm system devices, control panels (control panel should be in security room near the front gate) and remote enunciators shall be flush mounted or surface mounted as per direction given by E-in-C.
Manual fire alarm boxes shall be suitable for surface mounting or semi-flush mounting.
Commissioning Procedure shall be carried out in a methodical sequence as follows
Start-up, Configuration,
Operability adjustment, Stable operation, Final adjustment
The Contractor shall finalize captured FDAS data to be recorded and the manner in which the data is to be taken.

Instruction

Instruction shall be provided as required for operating the system. Hands-on demonstrations of the operation of all system components and the entire system including program changes and functions shall be provided.
The contractor and/or the systems manufacturer's representatives shall provide a typewritten "Sequence of Operation."



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Fire Fighting Components specifications

1.1 Applicable codes & Standards: All equipment, supply, erection, testing and commissioning shall comply with the requirements of Indian Standards and code of practice given below as amended up to the date of submission of Tender. All equipment and material being supplied shall meet the requirements of BIS and other relevant standards and codes.

MS Tube up to 150mm - IS: 1239
MS Tubes above 150mm - IS: 3589
Malleable Iron Fittings - IS: 1239 -1982
Cast Iron Sluice Valves - IS: 780 - 1984
Check Valves - IS: 5312 - 1975
Internal/External Fire Hydrant Valve IS: 5290 -1983
Rubberized Fabric Lined Hose - IS: 636
Couplings, Branch Pipe, Nozzles - IS: 903
First Aid Fire Hose (Rubber) - IS: 5132-1969
First Air Hose Reel - IS: 884 – 1969

1.2 Following functional system shall be provided; strictly in compliance with the listed system description The firefighting system shall be provided as per National Building Code of India 2005 (Part IV), as per local Chief Fire Officer guidelines/approval .and other relevant I.S codes and it shall be consisting of as follows:- Fire pumping system The fire pumping system shall comprise of (one electric pump of on terrace new building) (a) Electric Driven Pump Capacity 450 LPM 35Mt head (1 No.) Electrical pumps shall provide adequate flow for catering requirements of the hydrant system.

1.3 Pipework General Requirements All materials shall be of the best quality conforming to the specifications and subject to the approval of the consultants. Pipes shall be fixed in a manner as to provide easy accessibility for repair and maintenance and shall not cause obstruction in shafts, passages etc. Pipes shall be securely fixed to walls and ceilings by suitable clamps and supports (galvanized after fabrication) at intervals specified. Only approved types of anchor fasteners shall be used for RCC slabs and walls /floors etc.

Valves and other appurtenances shall be so located that they are easily accessible for repairs and maintenance. Pipes and fittings shall be fixed truly vertical, horizontal or in slopes as required in a neat workmanlike manner .Pipe accessories such as gauges, meters, control devices, etc. shall have the same working pressure rating as the associated pipe work. All pipe work shall be free from burrs, rust and scale and shall be cleaned before installation. All persons selling aged on welding operations must possess a certificate of competence issued by an acceptable /recognized authority.

1.4 Piping Pipes of following types are to be used: Mild steel black pipes as per IS: 1239/3589 heavy grade (for pipes of sizes 150 mm N.B. and below) suitably lagged on the outside to prevent soil corrosion. M.S. pipes buried below ground shall also be suitably be lagged with 2 layers of Coal tar /Asphalt tape as per IS 10221.

Steel pipelines upto 150mm dia shall be as per IS: 1239



While pipelines above 150 mm dia shall be as per I.S.:3589

All pipe clamps and supports shall be fabricated from MS steel sections and shall be suitably painted. Pipes shall be hung by means of expandable anchor fastener of approved make and design. The hangers and clamps shall be fastened by means of galvanized nuts and bolts. The size/diameter of the anchor fastener and the clamps shall be suitable to carry the weight of water filled pipe and dead load normally encountered. Hangers and supports shall be thoroughly galvanized after fabrication. The selection and design of the hanger & support shall be capable of carrying the sum of all concurrently acting loads. They shall be designed to provide the required supporting effects and allow pipeline movements as necessary. All guides, anchor braces, dampener, expansion joint and structural steel to be attached to the building/structure trenches etc. shall be provided. Hangers and components for all piping shall be approved by the Consultants.

The piping system shall be tested for leakage at 2 times the operating pressure or 1.5 time shut-off pressure, whichever is highest including testing for water hammer effects. Flanged joints shall be used for connections for vessels, equipment, flanged valves and also on straight lengths of pipelines at suitable strategic points to facilitate erection and subsequent maintenance work.

For pipes underground installation the pipes shall be buried at least one meter below ground level and shall have 230 mmx230mm masonry or concrete supports at least 300mm high at 3m intervals. Masonry work to have plain cement concrete foundation (1cement:4 coarse sand: 8 stone aggregate) of size 380x380x75 thick resting on firm soil. Most of the Ring main pipe shall be erected above ground level with periodic brick based masonry supports.

Pressure gauges shall be provided as shown on the approved drawings. Care shall be taken to protect pressure gauges during pressure testing.

1.5 Pipe Fittings :

Pipe fittings mean tees, elbows, couplings, unions, flanges, reducers etc and all such connecting devices that are needed to complete the piping work in its totality. Forged steel screwed type/ Welded fitting shall be used for pipes of 50 mm dia. Fabricated fittings used on pipe size 65mm & above shall be fabricated, welded in workshops.

1.6 Jointing:

Welded Joints All pipes above 65mm dia and above shall be joined with welded joints. Joints between MS pipes and fittings shall be made with the pipes and fittings having "V" groove and welded with electrical resistance welding in an approved manner. But welding without a "V" groove shall not be



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permitted. Screwed Joints All joints in the pipeline with screwed fittings shall be seal welded after testing and the weld plus the adjoining portion shall be given two coats of paint on one coat of primer.

1.7 Valves :

Butterfly Valve The butterfly valve shall be suitable for waterworks and rated for PN 10 .The body shall be of cast- iron in circular shape and of high strength to take the water pressure. The disc shall be heavy duty cast- iron with anti-corrosive epoxy or nickel coating. The valve seat shall be of high grade elastomer or nitrile rubber. The valve's closed position shall have complete contact between the seat and the disc throughout the perimeter. The elastomer rubber shall have long life and shall not give away on continuous applied water pressure. The shaft shall be EN 8 grade carbon steel. The valve shall be fitted between two flanges on either side of pipe flanges. The valve edge rubber shall be projected outside such that they are wedged within the pipe flanges to prevent leakages

Ball Valve:

The ball valve shall be made of forged brass and suitable for test pressure of pipe line. The valve shall be internally threaded to receive pipe connections. The ball shall be made from brass and machined to perfect round shape and subsequently chrome plated. The seat of the valve body-bonnet gasket and gland packing shall be of Teflon.

The handle shall be provided with a PVC jacket. The handle shall also indicate the direction of 'open' and 'closed' situations. The gap between the ball and the Teflon packing shall be sealed to prevent water seeping. The handle shall also be provided with a lug to keep the movement of the ball valve within 90°. The lever shall be operated smoothly and without application of any unnecessary force.

Non-Return Valve All Non-Return valves used in pump's delivery shall be suitable for water works cast iron double Flanged with cast iron body and gunmetal internal parts conforming to IS:5312.

Body Disc Cover : Cast Iron

Hinge Pin : SS AISI316

Disc Face : SSAISI316

End connection: BS 10 Table D, E & F

Wafer Type Check Valve;

All check valve used before flow switches shall be spring loaded dual plate check valves with following specifications:

Body: CI,

Plate: SS304,

Stop pin: SS316,

Hinge Pin: SS316,



Spring: SS316,
Seat: EPDM

1.8 Pressure switch:

The pressure switches shall be employed for starting and shutting down operation of pumps automatically, dictated by line pressure. The Pressure Switch shall be diaphragm type. The housing shall be die cast aluminium, with SS 316 movement, pressure element and socket. The set pressure shall be adjustable. The Switch shall be suitable for consistent and repeated operations without change in values. It shall be provided with IP: 55 water and environment protection.

1.9 Pressure gauge

Pressure gauge shall be provided near all individual connections of the hydrant system with isolation valves and near each flow switch assembly of the sprinkler system. Pressure gauge shall be 100 mm dia gunmetal bourdon type with gunmetal isolation ball valve, tapping and connecting pipe and nipple. The gauge shall be installed at appropriate height for easy readability.

2.0 Painting

All Hydrant and Sprinkler pipes shall be painted with post office red color paint. All M S pipes shall first be cleaned thoroughly before application of primer coat. After application of primer coat two coats of enamel paint shall be applied. Each coat shall be given a minimum 24 hours drying time. No thinners shall be used. Wherever required all pipe headers shall be worded indicating the direction of the pipe. Painting shall be expertly applied, the paint shall not over run on surfaces not requiring painting such as walls, surfaces etc. Nuts and bolts shall be painted black, while valves shall be painted blue.

2.1 Excavation

Excavation for pipelines shall be in open trenches to levels and grades shown on the drawings or as required at site. Pipe lines shall be buried with a minimum cover of 1 meter or as shown on drawings. Wherever required Contractor shall support all trenches or adjoining structures with adequate timber supports, shoring and strutting. On completion of testing in the presence of the Project Manager and pipe protection, trenches shall be backfilled in 150 mm layers and consolidated. Contractor shall dispose off all surplus earth as directed by the EIC.

2.2 Anchor/Thrust block

Contractor shall provide suitably designed anchor blocks in cement concrete/steel support to cater to the excess thrust due to work hammer and high pressure Thrust blocks shall be provided at all bends, tees etc.

2.3 Fire Hydrants (External Hydrants)

Contractor shall provide external hydrants. The hydrants shall be controlled by a cast iron wheel. Hydrants shall have instantaneous type 63mm dia outlets. The hydrants shall be single outlet



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conforming to IS: 5290 with bend and riser or required height to bring the hydrant to correct level above ground. Contractor shall provide for each external fire hydrant as per design/ drawing two numbers of 63 mm dia. 15m long controlled percolating hose pipe with SS male and female instantaneous type couplings machine wound with copper wire (hose to IS :636 type certification), SS branch pipe with nozzle to IS:903.

2.4 Hose Reel

Hose reel shall conform to IS:884, heavy duty, 20mm dia length shall be 36 metre long fitted with SS chromium plated nozzle, mild steel pressed reel drum which can swing upto 170 degree with wall brackets of cast iron finished with red and black enamel complete.

2.5 Fire Hose

All hose pipes shall be of 63 mm diameter RRL as required, conforming to IS:636. The hose shall be provided with SS delivery coupling. The hose shall be capable of withstanding a bursting pressure of 35.7 Kg/Sq.cm without undue leakage or sweating. Hose shall be provided with instantaneous spring lock, type couplings.

2.6 Branch Pipe, Nozzle

Branch pipes shall be of SS with a loaded tin bronze ring at the discharge and to receive the nozzle and provided at the other with a loaded tin bronze ring to fit into the instantaneous coupling. Nozzle shall be of spray type of diameter of not less than 16mm and not more than 25mm. Nozzle shall be of loaded tin bronze branch pipe and nozzle shall be of instantaneous pattern conforming to Indian Standard

2.7 Hose Cabinet

Hose cabinet shall be provided for all internal and external fire hydrants. External Hose cabinets shall be fabricated from 14 gauge MS powder coated sheet of fully welded construction with hinged double front door partially glazed (3 mm glass panel) with locking arrangement, stove enameled fire red paint (shade No. 536 of IS:5) with "FIRE HOSE" written on it prominently (The word 'FIRE HOSE' shall be in letters of at least 35mm in height. The words shall be painted white on red background). Cabinet surfaces in contact with the walls shall not be powder coated but instead given two coats of anticorrosive bitumastic paint. Internal Hose Cabinet Hose cabinet shall be of glass fronted with hinged door & lock. The cabinet shall be made of Aluminium hollow box section, powder coated to shade No.536 of IS:5

2.8 Fire extinguishers

Work under this section shall consist of furnishing all labor, materials, appliances and equipment necessary and required to install fire extinguishing and appliances as per relevant specification of various authorities. Without restricting to the generality of the foregoing, the work shall consist of the



following: Installation of fully charged and tested fire extinguishing and appliances of ABC powder types required and specified in the drawings and schedule of rates.

2.8.1 General Requirements

Hand appliances shall be installed in easily accessible locations with the brackets fixed to the wall by suitable anchor fasteners. Each appliance shall be provided with an inspection card indicating the date of inspection, testing, change of charge and other relevant data. All appliances shall be fixed in a true work man like manner truly vertical and at correct locations. Distribution /installation of fire extinguisher to be in accordance to IS: 2190. Measurement Fire extinguishers shall be counted in numbers and include installation fall necessary items required as given in the specifications

2.8.2 Carbon Dioxide Extinguisher

The Carbon Dioxide Extinguisher shall be as per IS: 15683:2006 The body shall be constructed of seamless tube conforming to IS: 7285 and having a convex dome and flat base. Its dia shall be maximum 140 mm, and the overall height shall not exceed 720 mm. The discharge Mechanism shall be through a control valve conforming to IS: 3224. The internal siphon tube shall be of copper aluminum conforming to relevant specifications. Hose Pipe shall be high pressure braided Rubber hose with a minimum burst pressure of 140 Kg/cm² and shall be approximately 1.0 meter in length having internal dia of 10 mm. The discharge horn shall be of high quality unbreakable plastic with gradually expanding shape, to convert liquid carbon dioxide into gas form. The hand grip of the discharge horn shall be insulated with Rubber of appropriate thickness. The gas shall be conforming to IS: 307 and shall be 85 Kg/cm². The expansion ratio between stored liquid carbon dioxide to expanded gas shall be 1:9 times and the total discharge time (effective) shall be minimum 10 secs and maximum 25 secs. The extinguisher shall fulfill the following test pressures:

Cylinder: 236 Kg/cm² Control Valve: 125 Kg/cm² Burst Pressure of Hose: 140 Kg/cm² minimum It shall be an Upright type. The cylinder, including the control valve and high pressure Discharge Hose must comply with relevant Statutory Regulations, and be approved by Chief Controller of Explosives, Nagpur and also bear IS marking. The Extinguisher including components shall be IS marked.

2.9 Fire Pumps & allied equipments

Work under this section shall consist of furnishing all labor, materials, equipment and appliances necessary and required to completely install electrically operated and as required by drawings and specified here in after or given in the schedule of rates.

- a. Electrically operated pumps with motors, common base plate, coupling, coupling guard and accessories.
- b. Automatic starting system with all accessories, wiring and connections and pressure switches.
- c. Motor control center.



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- d. Annunciation system with all accessories wiring and connections.
- e. Pressure gauges with isolation valves and piping, bleed and block valves.
- f. Suction strainers and accessories.
- g. Vibration eliminator pads and foundation bolts.
- h. Leak-off drain shall be led to the nearest floor drain.

General Requirements

Pumps shall be installed true to levels on suitable concrete foundations. Base plate shall be firmly fixed by properly grouted foundation bolts. Pumps and motors shall be truly aligned by suitable instruments. Record of such alignment shall be furnished to the Engineer-In-Charge. All pump connections shall be standard flanged type with number of bolts as per relevant standard requirement for the working pressure. Companion flanges shall be provided with the pumps. Manufacturers' instructions regarding installation, connections and commissioning shall be strictly followed. Contractor shall provide necessary test certificates, type test certificates, performance curves and NPSH curves of the pumps from the manufacturer when called for. The contractor shall provide facilities to the EIC & Consultant for inspection of equipment during manufacturing and also to witness various tests at the manufacturer's works without any cost to the EIC or Consultant. Seismic isolation and clamping for each pump and flexible connection on the suction as well as the discharge side shall be provided.

Electric Fire Pump

The electric fire pump shall be suitable for automatic operation complete with necessary electric motor and automatic starting gear, suitable for operation on 415volts, 3 phase, 50Hz.A.C.system. Both the motor and the pump shall be factory assembled on a common base plate, fabricated M.S. channel type or cast iron type. Drive The pump shall be direct driven by means of flexible coupling. Coupling guard shall also be provided.

Fire Pump

The fire pump shall be horizontally mounted multistage centrifugal type. It shall have a capacity to deliver 450 lpm as specified, and develop adequate head so as to ensure a minimum pressure of 3.5 Kg/Sq.cm at the highest and the farthest outlet.

The pump casing shall be of cast iron to grade FG 200 to IS: 210 and parts like impeller, shaft sleeve, wearing ring etc. shall be of non-corrosive metal like bronze/brass/gun metal. The shaft shall be of stainless steel. Provision of mechanical seal shall also be made. Bearings of the pump shall be effectively sealed to prevent loss of lubricant or entry of dust or water. The pump shall be provided with a plate indicating the suction lift, delivery head, discharge, speed and number of stages. The pump casing shall be designed to withstand 1.5 times the working pressure.



Motor

The motor shall be a squirrel cage A.C. induction type suitable for operation on 415 volts 3 phase 50 Hz. system. The motor shall be totally enclosed fan cooled type conforming to protection class IP 55. The class of insulation shall be F. The synchronous speed shall be 1500 RPM as specified. The motor shall be rated for continuous duty and shall have a horsepower rating necessary to drive the pump at 150 percent of its rated discharge with at least 65 percent rated head. The motor shall conform to I.S.325-1978.

Motor Starter

The motor starter shall be as per detail in MCC. The unit shall include a suitable current transformer and ammeter of suitable range on one line to indicate the current. The starter shall not incorporate under voltage, no voltage trip overload or SPP. The starter assembly shall be suitably integrated in the power and control panel for the wet



SECTION-VI

LIST OF MAKES

LIST OF APPROVED MAKES

LIST OF APPROVED MATERIALS FOR ADDRESSABLE FIRE ALARM / DETECTION SYSTEM SL. NO	ITEMS	APPROVED MAKE
1	Fire Alarm Panel	BOSCH, NOTIFIER, GEMWELL, HONEYWELL – ESSAR /SIEMENS
2	Optical Smoke Detector	BOSCH, NOTIFIER, GEMWELL, SHRACK, HONEYWELL – ESSAR /SIEMENS
3	Optical Smoke-cum-Thermal type Multi criteria Detector	BOSCH, NOTIFIER, GEMWELL, HONEYWELL – ESSAR /SIEMENS
4	Manual Call Point	BOSCH, NOTIFIER, GEMWELL, HONEYWELL – ESSAR /SIEMENS
5	Fault Isolator Module	BOSCH, NOTIFIER, GEMWELL, HONEYWELL – ESSAR / SIEMENS
6	NAC Powered Hooter	BOSCH, NOTIFIER, GEMWELL, HONEYWELL - ESSAR SIEMENS
7	Projected Beam Detector	BOSCH /NOTIFIER / GEMWELL /HONEYWELL-ESSER /SIEMENS
8	Wire & Cable	POLYCAB, MESCAB, FINOLEX
9	Fire Alarm Panel	BOSCH, NOTIFIER, GEMWELL, HONEYWELL – ESSAR /SIEMENS
10	Optical Smoke Detector	BOSCH, NOTIFIER, GEMWELL, SHRACK, HONEYWELL – ESSAR /SIEMENS
11	All other items not covered above	AS PER SAMPLES APPROVED



SECTION-VII

ANNEXURES

ANNEXURE-I

Form of Performance Security (Guarantee) Bank Guarantee Bond-Format - I In consideration of the President of India (hereinafter called "The Government") having offered to accept the terms and conditions of the proposed agreement between.....and (hereinafter called "the said Contractor(s)") for the work..... (hereinafter called "the said agreement") having agreed to production of an irrevocable Bank Guarantee for Rs. (Rupees only) as a security/guarantee from the contractor(s) for compliance of his obligations in accordance with the terms and conditions in the said agreement. 1. We, (hereinafter referred to as "the Bank") hereby undertake to pay to the Government an amount not exceeding Rs. (Rupees..... Only) on demand by the Government. 2. We,(indicate the name of the Bank) do hereby undertake to pay the amounts due and payable under this guarantee without any demure, merely on a demand from the Government stating that the amount claimed as required to meet the recoveries due or likely to be due from the said contractor(s). Any such demand made on the bank shall be conclusive as regards the amount due and payable by the bank under this Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. (Rupeesonly) 3. We, the said bank further undertake to pay the Government any money so demanded notwithstanding any dispute or disputes raised by the contractor(s) in any suit or proceeding pending before any court or Tribunal relating thereto, our liability under this present being absolute and unequivocal. The payment so made by us under this bond shall be a valid discharge of our liability for payment thereunder and the Contractor(s) shall have no claim against us for making such payment. 4. We, (indicate the name of the Bank) further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said agreement and that it shall continue to be enforceable till all the dues of the Government under or by virtue of the said agreement have been fully paid and its claims satisfied or discharged or till Engineer-in- Charge on behalf of the Government certified that the terms and conditions of the said agreement have been fully and properly carried out by the said Contractor(s) and accordingly discharges this guarantee. 5. We, (indicate the name of the Bank) further agree with the Government that the Government shall have the fullest liberty without our consent and without affecting in any manner our obligation hereunder to vary any of the terms and conditions of the said agreement or to extend time of performance by the said Contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the Government against the said contractor(s) and to forbear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Contractor(s) or for any forbearance, act of omission on the part of the Government or any indulgence by the Government to the said Contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us. 6. This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor(s). 7. We, (indicate the name of the Bank) lastly undertake not to revoke this guarantee except with the previous consent of the Government in writing. 8. This guarantee shall be valid up tounless extended on demand by the Government. Notwithstanding anything mentioned above, our liability against this guarantee is restricted to Rs. (Rupees) and unless a claim in writing is lodged with us within six months of the date of expiry or the extended date of expiry of this 105 guarantee all our liabilities under this guarantee shall stand



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discharged. Dated theday offor.....(indicate the name of the Bank).

ANNEXURE II

UNDERTAKING BY THE TENDERER

I / We have read and examined the Tender document including terms & conditions, specifications, Schedule of quantities, drawings and designs, general rules & directions, General Conditions of Contract, Special Conditions of Contract and all relevant other documents, publications and rules referred to in the Conditions of Contract and all other contents in the tender documents for the work.

I / We, hereby tender for execution of the work specified for the TIFR-Hyderabad, Hyderabad within the time specified and in accordance in all respects with the specifications, designs, drawings and instructions in writing.

We agree to keep the tender open for seventy five (75) days from the last date of its submission and not to make any modifications in its terms and conditions. A sum of Rs.....has been deposited in cash / receipt treasury challan / deposit at call receipt of scheduled bank / fixed deposit receipt of scheduled bank / demand draft of a scheduled bank / Bank Guarantee issued by a Scheduled Bank as earnest money. If I / we, fail to furnish the prescribed performance guarantee within prescribed period, I / we agree that the said TIFR-Hyderabad, Hyderabad or its authorized officer shall without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely. Further, if I / we fail to commence work as specified, I / we agree that the TIFR-Hyderabad, Hyderabad shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said earnest money and the performance guarantee absolutely, otherwise the said earnest money shall be retained by TIFR- Hyderabad, Hyderabad towards security deposit to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to therein.

Further, I / We agree that in case of forfeiture of earnest money or both Earnest Money & Performance Guarantee as aforesaid, I / We shall be debarred for participation in the re-tendering process of the work.

I / We hereby declare that I / We shall treat the tender documents, drawings and other records connected with the work as secret / confidential documents and shall not communicate information derived there-from to any person other than a person to whom I / We am / are authorized to communicate the same or use the information in any manner prejudicial to the safety of the State.

Seal & Signature of Contractor Postal Address

Dated

Witness



Address Occupation

ANNEXURE-III

CERTIFICATE OF LOCAL CONTENT

***We [name of manufacturer] hereby confirm in respect of quoted item(s) that local Content is equal to or more than 50% and come under 'Class-I Local Supplier' Category. As being 'Class-I Local Supplier', we are eligible for Purchase Preference under 'Make in India' Policy vide Gol Order No.P-45021/2/2017-PP (B.E.-II) dated 15.06.2017 (subsequently revised vide orders dated 28.05.2018, 29.05.2019 and 04.06.2020)**

OR

***We [name of manufacturer] hereby confirm in respect of quoted items(s) that Local Content is more than 20% but less than 50% and come under 'Class-II Local Supplier' Category.**

The details of the location (s) at which the local value addition made is / are under:

1.

2.

Date:

Seal & Signature of the Bidder

NOTE:

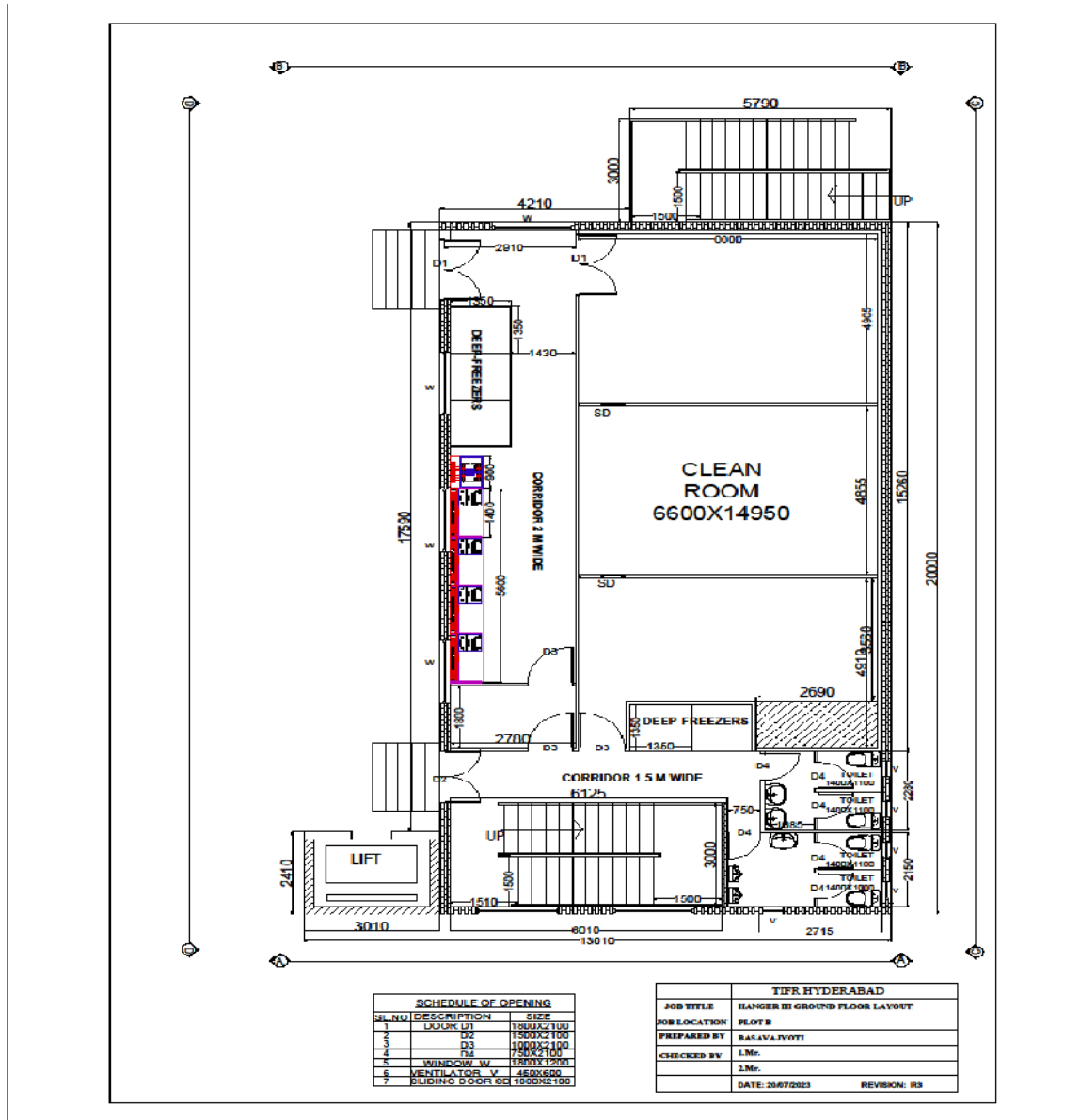
Self-certification that the item offered meets the minimum local content (as above) giving details of the location(s) at which the local value addition is made in case the bidder wishes to avail the benefits under the make in India policy, if applicable.

In cases of procurement for a value in excess of Rs.10 crores, the local supplier shall be required to provide a certificate from the statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content to avail the benefits under the make in India policy, if applicable.



ANNEXURE-IV

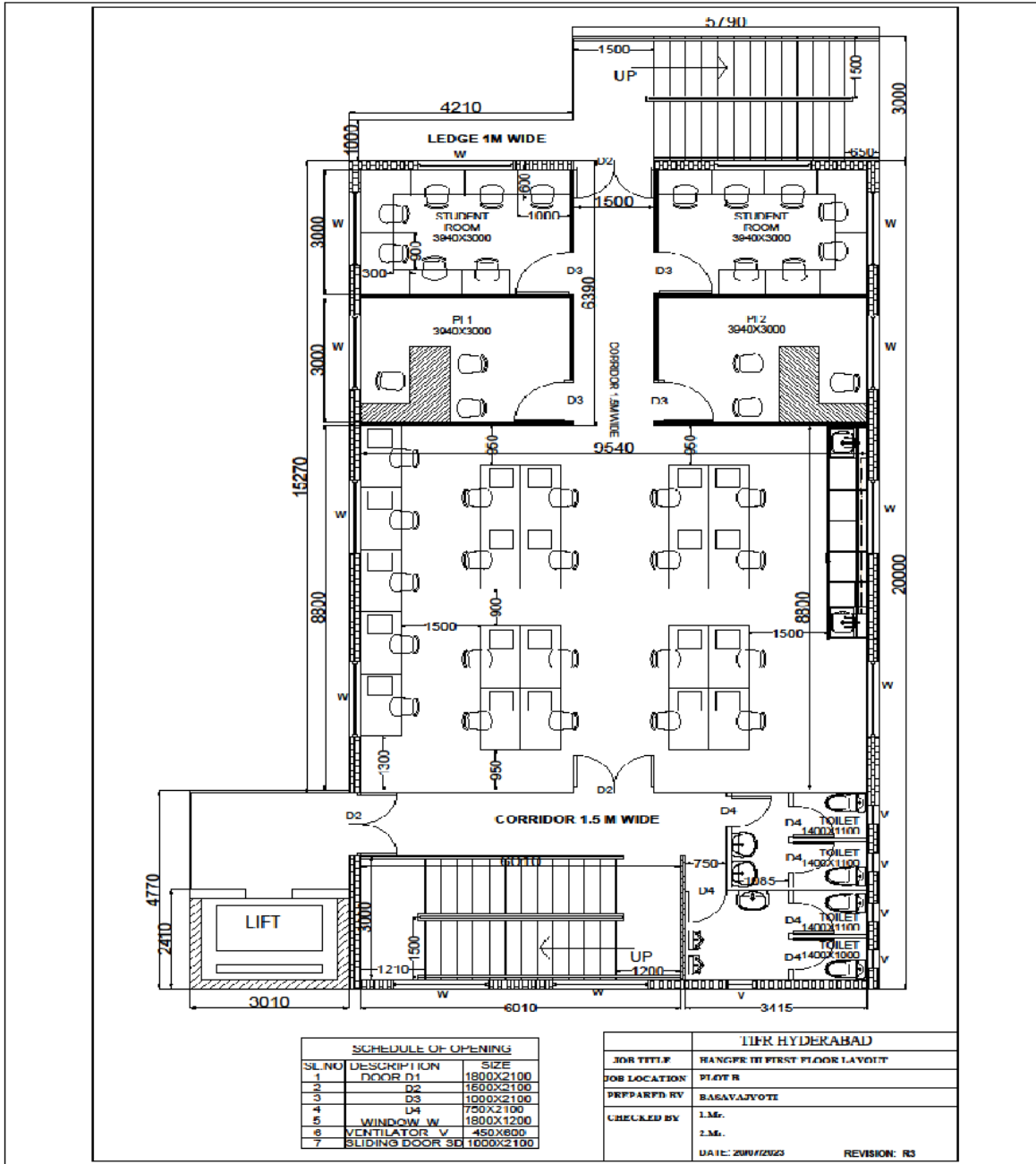
GROUND FLOOR LAYOUT





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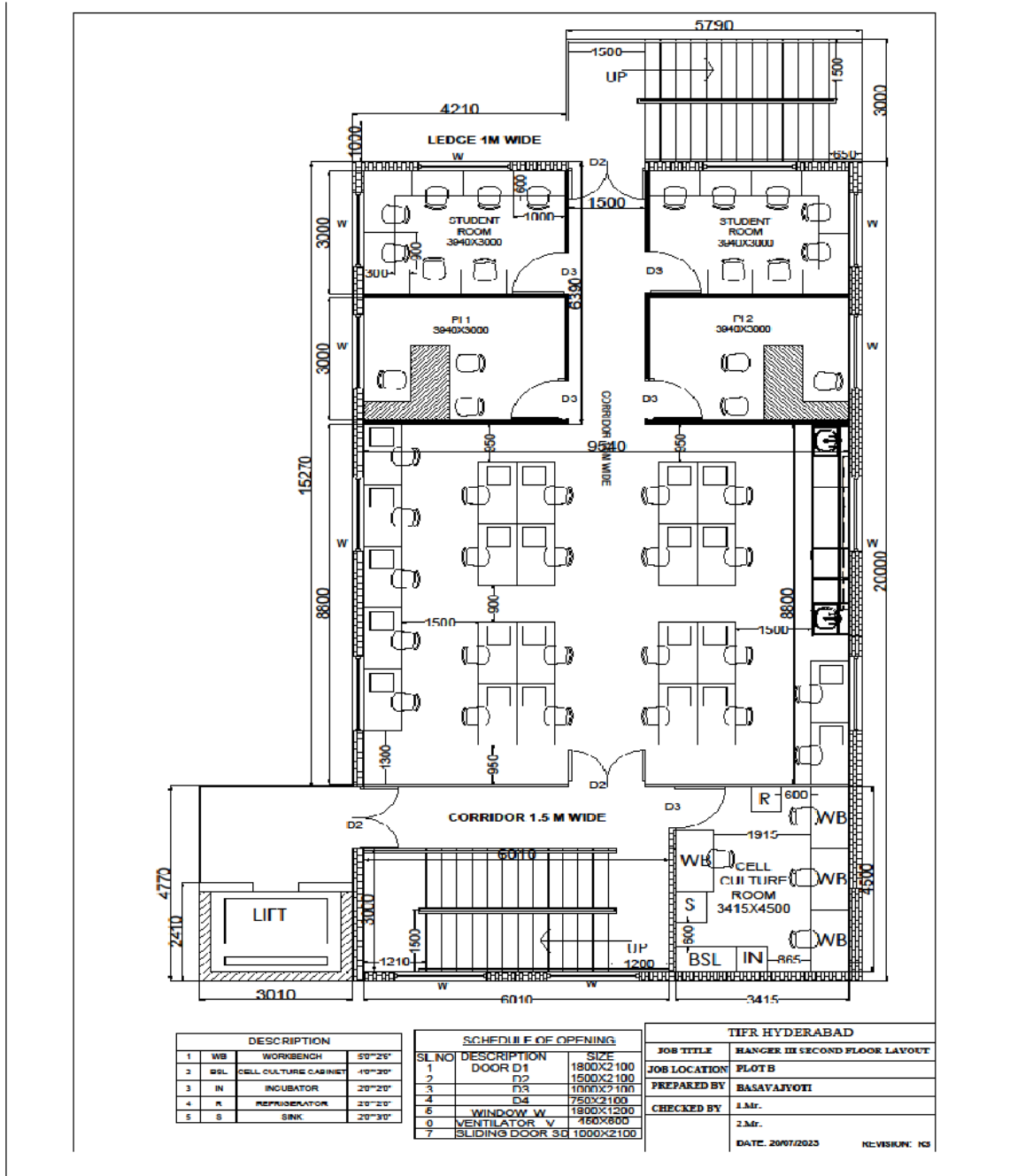
FIRST FLOOR LAYOUT



SCHEDULE OF OPENING		
SL.NO	DESCRIPTION	SIZE
1	FLOOR D1	1800X2100
2	D2	1600X2100
3	D3	1000X2100
4	U4	750X2100
5	WINDOW W	1900X1200
6	VENTILATOR V	450X800
7	SLIDING DOOR SD	1000X2100

TIFR HYDERABAD	
JOB TITLE	RANGER IN FIRST FLOOR LAYOUT
JOB LOCATION	FLOOR
PREPARED BY	RAGAVAJYOTE
CHECKED BY	I.M.
	S.M.
DATE: 20/01/2023	REVISION: R3

SECOND FLOOR LAYOUT





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SECTION-VIII

FINANCIAL BID

INVITATION OF BIDS FOR

**Supply, Installation, Testing & Commissioning of Fire Alarm System
& Fire Fighting works and other related works for Nutrition Facility,
Plot-B, TIFR, Survey No. 36/P, Gopanpally (Village), Serilingampally
(Mandal), Ranga Reddy Dist., Hyderabad- 500046**

PART II

FINANCIAL BID



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SCHEDULE OF QUANTITIES

Sl. No.	Item Description	Unit	Qty (A)	Unit Rate (B)	Total (C = A x B)
1	Supply, Installation, Testing & Commissioning of Single loop Addressable Fire Alarm Control Panel with In Built R5485 Card & No Expansion the Loop Card and Inbuilt Charger Circuit including Batteries etc to complete the work. (Make : Morley / Notifier/ Equivalent Approved) Equivalent to Morley IAS Model No. DXC1 (Make : Morley / Notifier/ Equivalent Approved)	NO	1		
2	Supply, Installation, Testing & Commissioning of Addressable Intelligent Wall Mounted Strobe, Red with Dual Tone Facility and Volume High Low Adjustment. Equivalent to Model No. WSS PR N05 + MI/501/AP/IV (Make : Morley / Notifier/ Equivalent Approved)	NOS	4		
3	Supply, Installation, Testing & Commissioning of Addressable Manual Call Point Red Add Call Point, Flush Mounting, Glass Equivalent to Model No. HM/MCP/GLASS (Make : Morley / Notifier/ Equivalent Approved)	NOS	4		
4	Supply, Installation, Testing & Commissioning of Addressable Multi Sensor Smoke Detector with Base to complete the work. Equivalent to Model No. HM/PTSE + MI/501/AP/IV (Make : Morley / Notifier/ Equivalent Approved)	NOS	65		
5	Supply, Installation, Testing & Commissioning of Addressable Rate of Heat Rise/Heat Detector with Base to complete the work. Equivalent to Model No. HM/RHSE + MI/501/AP/IV (Make : Morley / Notifier/ Equivalent Approved)	NO	1		



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6	Supply, Installation, Testing & Commissioning of Response Indicator Equivalent to Model No. RI/007H (Make : Morley / Notifier/ Equivalent Approved)	NOS	25		
7	Supply, Laying, Testing & Commissioning of 1.5sqmm x 2 core Copper armoured Cable FRLS (multistand) for Fire alarm	MTR	1000		
8	Loop/Fault Isolator Module Equivalent to Model No. MI/DISO (Make : Morley / Notifier/ Equivalent Approved)	NO	2		
9	Supplying, installing, testing and commissioning of MS pipe 'B' class of size 100mm (as per IS 1239) with malleable specials such as Reducers, Tees, Elbows, flanges. Including cutting, Welding of pipes, making cut-outs in walls & puff panels, scaffolding etc. complete for finished item of work. Make: JINDAL (HISSAR) / TATA / Approved make	MTR	3		
10	Supplying, installing, testing and commissioning of MS pipe 'B' class of size 80mm (as per IS 1239) with malleable specials such as Reducers, Tees, elbows, flanges. Including cutting, Welding of pipes, making cut-outs in walls & puff panels, scaffolding etc. complete for finished item of work. Make: JINDAL (HISSAR) / TATA / Approved make	MTR	25		
11	Supplying, installing, testing and commissioning of MS pipe 'B' class of size 25mm (as per IS 1239) with malleable specials such as Reducers, Tees, elbows, flanges. Including cutting, Welding of pipes, making cutouts in walls & puff panels, scaffolding etc. complete for finished item of work. Make: JINDAL (HISSAR) / TATA / Approved make	MTR	2		
12	Providing & fixing wafer type butterfly valve PN 10 of approved make and size of 100mm with material of construction for body using high duty cast iron epoxy painted, seating with resilient lining mould on body with black nitrile rubber, disc with SG iron,	NO	1		



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	Nylon coated shaft with stainless steel & nitrile rubber "O" rings mounted on shaft for shaft seal with standard lever fitted with thumb screw to lock in position desired, 3mm thick rubber insertions required for fixing the valve etc., complete. Make :NVR / LEHRY / HD/ L&T/Equivalent				
13	Providing & fixing wafer type butterfly valve PN 10 of approved make and size of 80mm with material of construction for body using high duty cast iron epoxy painted, seating with resilient lining mould on body with black nitrile rubber, disc with SG iron, Nylon coated shaft with stainless steel & nitrile rubber "O" rings mounted on shaft for shaft seal with standard lever fitted with thumb screw to lock in position desired, 3mm thick rubber insertions required for fixing the valve etc., complete. Make: NVR / LEHRY / HD/ L&T/Equivalent	NOS	5		
14	Providing, fixing in position brass, gun metal & CI easy clean strainer/ Basket strainer PN16 of size 100mm dia of approved make with stainless steel strainer etc., complete. Make: NVR / LEHRY / HD/Equivalent	NO	1		
15	Providing and fixing wafer type reflux valve (non return valve) PN10 of approved make and of sizes 80mm with material of construction for body using high duty cast iron epoxy painted, seating with resilient lining mould on body with black nitrile rubber, disc with SG iron, SS spring for holding disc, 3mm thick rubber insertions required for fixing the valve etc., complete. Make :NVR / LEHRY / HD/Equivalent	NO	1		
16	Supply, Installation, testing and commissioning stainless-steel Pressure Gauges with stainless steel 'U' tube, ball valve, 100mm dial diameter and calibrated with 0-15 Kg/cm ² etc., all complete as per specifications and direction of Engineer-In-Charge. Make: H.GURU/FIEVIG/Equivalent	NO	1		



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17	Supply, installation, testing and commissioning of Pressure switches and calibrated with 0-15 Kg/cm ² for pump sets including Fittings like unions / elbows / reducers, necessary wiring up to the control panel etc., complete as per specifications and direction of Engineer-In-Charge. Make: DANFOSS / HONEY WELL / SWITZER/CRI/Equivalent	NO	1		
18	Supply, installation, testing and commissioning of Terrace booster pump with the following specifications; 1) Pump type-3 phase horizontal mono block, 2) Flow rate with 450 LPM 3) Delivery head 35 M 4) Motor Rating-5.50Kw/ 7.50HP 4) Speed-2900rpm, 5) cast iron casing 6) cast iron impeller 7) Rubber bellow mechanical seal shaft sealing, 8) pump suction flange size-80mm, Delivery flange size-65mm Make: KIRLOSKAR/ MATHER PLATT/ GRUNDFOS. The quoted rate shall include providing and fixing of complete set of Pump including suitable control panel of standard make for operation of pump including fabrication, supply and commissioning of panel of pump, Painting, all accessories, suitable bolts for fixing to MS base at top of supporting water tank structure etc. all complete as per relevant specifications, technical specification of this tender and direction of Engineer-In-Charge.	NO	1		
19	Supplying, installing of M.S. Channel / Angle / Flats etc.), fabrication of base for booster pump, anchor fasteners, bolts nuts, clamps, "U" bolts, Socket weldable specials Including cutting, Welding, fixing in / on walls, ceiling by using suitable supports etc., Make: JINDAL / TATA/Equivalent	KGS	150		
20	Providing & fixing heavy quality 25 mm dia brass forged Ball valve for pressure gauge & pressure switch Make: ZOLOTO / NVR/ Equivalent	NOS	5		



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21	Providing & fixing in position of forged brass Air release valve, PN1.6 of size 15mm make: ZOLOTO / NVR/ Equivalent	NO	1		
22	Supplying, installation, testing & commissioning of Landing Hydrants comprising of : (A) Single headed hydrant valve as per IS:5290 made of SS with 63mm dia instantaneous two outlets and 80mm dia flanged inlet, Blank caps ,chain and hand wheel etc. all complete as per specifications and directions of Engineer-In-Charge. (B) 2 Lengths of 15mtr long, 63mm dia RRL Hose with instantaneous couplings and hoses shall be stored inside the hose cabinet etc. All complete as per specification and direction of Engineer-In-Charge (C) 1 Nos of SS Short branch pipe with nozzle all complete as per specification & direction of Engineer -In-Charge. (D) Hose reel drum of swinging type with 19 mm dia Rubber braided hose of 36.5 mtr with 25mm dia ball valve (upstream) and Shut off nozzle of jet and spray type, etc.,all complete as per specifications and direction of Engineer-In-Charge. (E) Fire hose box made out of MS Sheet 1.20mm of size 750mm x 600mm x 250mm with double door shutter fixed with 4mm thick glass, suitable rubber beading and locking arrangement. Quoted rate shall be includes all fasteners etc. and complete shutter shall be powder coated of approved colour both inside and outside etc. all complete as per specification & directions of Engineer-In-Charge.Make:NEWTECH / NEWAGE / MINIMAX/ARIHANTH	NOS	4		
23	Supply, erection, testing & commissioning 100mm 2 way Fire Brigade inlet, connection. Make: NEWTECH / NEWAGE / MINIMAX	NO	1		
24	Supply, Installation of Exit signage, Make: PROLITE/ AUTO GLOW/ MEDIATECK	NOS	12		



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	Sub Total
	GST @ 18%
	Grand Total Supply & Installation in Rs.
Grand Total Amount in words Rs.....only	

Note:	
1	Rates are all inclusive of profit, packing & forwarding, Transport, loading & unloading, labour and Taxes, Etc.
2	TIFR, Hyderabad has right to delete any of above items from scope of work or may increase/reduce quantities as per its requirement during execution of work. No claim or compensation for such deletion/increase/decrease will be accepted/paid to the contractor. Payment will be made as per actual quantities executed at tender rates
3	Manufacturer's warranty of respective supply items to be provided.
4	For any above item quantity exceeding more than 10% of projected qty, contractor shall take prior approval from TIFR Engineer In charge in writing.
5	For any deviating items, the contractor shall take prior approval from TIFR Engineer In charge with proper rate analysis.