

TENDER NOTICE NO. 12 / 2018-2019 Public

Tender No. : NCRA:178L:PUB380:2018

The National Centre for Radio Astrophysics (NCRA) of the Tata Institute of Fundamental Research (TIFR) is a leading Centre for research in a wide range of areas in astronomy and astrophysics.

1. **NCRA-TIFR**, Pune, India invites sealed bids in Two part, Part– I: Techno-commercial Bid & Part – II: Price Bid **from OEMs or their accredited distributors/ dealers / agents / experienced AV System integrators** for the following:

Description of Work	Earnest Money Deposit (EMD) INR
Supply, Installation, Testing and Satisfactory Commissioning of Sound Reinforcement & Video Projection System (AV) at our GMRT- Auditorium, at Khodad, Tal –Junnar, Dist – Pune 410504, as per our Tender Document and Drawings. Estimated Cost : Rs.70 Lacs	Rs. 1,40,000/- (Rupees one lakh forty thousand only) Full amount in the Form of Demand Draft. Cost of Tender Document : Rs. 500/- (Rupees Five Hundred only by way of Demand Draft drawn in favour of “TIFR” payable at Pune.
EMD and Tender Fee must be submitted with Technical Bid.	
Date and Time for Pre-Bid meeting	09.01.2019 at 1400 hrs. at GMRT-Khodad, Junnar
Last Date and Time for submission of Bids	17.01.2019 , upto 1800 hrs. at NCRA-TIFR Pune
Date and time of opening of Techno Commercial Bid (Part- I).	18.01.2019, at 15.30 hrs. at NCRA-TIFR Pune

2. Eligibility Criteria :

- Bidder must visit the site to know exact scope of work, site conditions etc. and submit certificate of visit along with the bid as per **Annexure –J**, duly signed and sealed by authorized representative/official of NCRA.
- The bidder shall provide / supply all the components of the system from the specified OEM /distributor with three years onsite comprehensive warranty/guarantee and also assurance about the after sales/service. The bidder shall be currently authorized by the manufacturer of the major components of the system to sell their products and initiate warranty service on the same items. Major components of the system shall include, but not be limited to, data/video projectors, video processing equipment, audio processing equipment, power amplifiers, speakers, etc. Proof of this may be requested during the bidding process. Proof of franchise shall be in the form of manufacturer authorization addressed to the institute stating that the bidder is currently authorized to sell/service their products.
- Bidder must have executed similar contracts of value stated below in the past seven years from the date of publishing of the tender ie., between **01.12.2011 to 01.12.2018.**

- One single job costing not less than 80% of Estimated cost OR
- Two jobs each costing not less than 60% of Estimated cost OR
- Three jobs each costing not less than 40% of Estimated cost

Similar works means providing complete audio reinforcement & video projecting system for Auditorium/conference hall /theatre/or any large halls having more than 100 seats.

- The documentation shall include the names, locations, and points of contact for at least three

installations of the type and complexity specified herein. Tenderers shall indicate the type of each referenced system and certify that each system has performed satisfactorily in the manner intended for a period of not less than 36 months. Performance Certificate confirming the same from your client to be submitted.

- e. Bidder is required to provide onsite comprehensive warranty of minimum **three years** for all the items and services.
- f. Bidder must not have been black listed by TIFR or another Education / R&D Govt. organization as on date of submission of bid. Certificate to this effect must be submitted.
- g. Bid must be valid for a minimum period of **180 days** from the due date for submission of bid.
- h. Bidder is required to submit all relevant documents in support of the above, failing which their bid will not be taken up for technical evaluation.
- i. Successful bidder must be able to submit :-

Security Deposit and Performance Guarantee as specified in the tender document.

3. Bidding document can be downloaded from our website <http://www.ncra.tifr.res.in/ncra/ncra1/public-tenders-1> and also on <http://eprocure.gov.in/epublish/app> by any interested bidder meeting the eligibility criteria from **19.12.2018**

Bidders after downloading the tender document are requested to please send an email to purchase@ncra.tifr.res.in giving their Full address, so that purchase can intimate regarding the correspondence / addendum to the tender documents, if any.

4. Interested Bidders may obtain further details from :

**National Centre for Radio
Astrophysics, Tata Institute of
Fundamental Research, NCRA, Post
Box No. 3, Ganeshkhind, Pune - 411
007. Maharashtra, India.
Tel - 020-
25719266/9206/9000 Fax -
020-25692149
Website : www.ncra.tifr.res.in
E-mail : purchase@ncra.tifr.res.in**

The bids Part 1 – Techno-commercial Bid together with all documents as stated in Check List & Part 2 – Price Bid in separate sealed envelopes duly superscribed with tender no. & due date must reach Purchase Officer, NCRA-TIFR, Pune University Campus, Ganeshkhind, Pune-411007, India. Techno-commercial bid will be opened in the presence of Bidders' representatives who choose to attend on the specified date and time alongwith authority letter from their company. In the event of the date specified for bid receipt and opening being declared as a closed holiday for NCRA's office, the due date for submission of bids and opening of bids will be the following working day at the same time.

5. Price bids will be opened at a later date which will be intimated to only techno-commercially qualified bidders.
6. All bids must be accompanied by **DD towards earnest money deposit and Cost of Tender document** specified above and must be delivered to the above office at the date and time indicated above.
- 7. RIGHT TO REJECT ANY OR ALL BIDS :**
NCRA reserves the right to accept or reject any or all bids without assigning any reasons there for.
8. NCRA is not responsible for delay or loss of tender document / bids in transit.
9. **Bidder are also requested to visit our website www.ncra.tifr.res.in regularly for any addendum /updates pertaining to this tender.** No separate notification will be published in the Newspapers for the same.
10. **The bid** to be submitted within the due date and time in a sealed envelope and marked on top the Tender No., due Date in Bold Letters.

Please see attached sheets for conditions of tender.

PURCHASE OFFICER



NATIONAL CENTRE FOR RADIO ASTROPHYSICS
Tata Institute of Fundamental Research
Pune

Public Tender No.

NCRA:178L:PUB380:2018

*Supply, Installation, Testing and Satisfactory
Commissioning of Sound Reinforcement & Video
Projection System (AV) at our GMRT-NCRA
Auditorium, at Khodad, Tal –Junnar, Dist – Pune -
410504*

CHECK LIST TO BE ENCLOSED WITH TECHNO COMMERCIAL BID

(Part-I of Tender)

Page 1 of 2

Sr. No.	Particulars	Provide Details	Enclosed
1	Whether EMD enclosed.	D.D.No. Dtd..... Rs.	Yes / No
2	Demand Draft towards Tender Fee enclosed	D.D.No. Dtd.....	Yes / No
3	Bidders Partnership registration / Company incorporation Copy enclosed of OEM.		Yes / No
4	Incorporation / Registration copy of authorized system integrator in India submitted		
5	Company Profile as per Annexure A enclosed		Yes / No
6	Eligibility Criteria Statement duly filled in by bidder Annexure-B		Yes / No
7	Technical compliance statement as per Annexure C enclosed.		Yes / No
8	Whether Manufacturers authorization certificate from respective Manufacturers for supply of item (if bid is from authorized Distributor or dealer) enclosed – as per Annexure – D		Yes / No
9	Whether Schedule of deviation from General & Special Conditions is submitted duly signed and Stamped as per Annexure – E enclosed		Yes / No
10	Bid Form as per Annexure H enclosed		Yes / No
11	Undertaking for Amalgamation/Acquisition - Annexure-I enclosed.		Yes / No
12	Site Visit Certificate – Annexure J		
13	Format for furnishing Bank Details for refund of EMD/ making payment – Annexure-K enclosed		Yes / No
14	Undertaking for having read and taken note of all the terms and conditions of the Tender as per Annexure L enclosed.		Yes / No
15	Copy of power of attorney to sign the bid enclosed (Applicable for LLP / partnership company / PVT LTD / LTD Company)		Yes / No
16	BIS Certificate for item quoted enclosed.		Yes / No

Date : Signature of Bidder :
Name & Designation :
Place : Company Name & Address :
Company Seal & Phone No. :

CHECK LIST TO BE ENCLOSED WITH TECHNO COMMERCIAL BID

(Part-I of Tender)

Page 2 of 2

Sr. No.	Particulars	Provide Details	Enclosed
17	Undertaking from OEM confirming that items offered are not nearing end of life or end of support for Six years from the date of bidding submitted.		Yes / No
18	Bill of material with part number for all components submitted.		Yes / No
19	Copies of order with similar value executed in the past three years submitted.		Yes / No
20	Document seeking any exemption / relaxation as per Govt. of India rules submitted		Yes / No
21	Unpriced bid as per Chapter 6 is enclosed		Yes / No

22	Price bid Part II as per Chapter 7 is submitted in separate sealed envelope.	Yes / No
----	---	-----------------

Date	:	Signature of Bidder	:
		Name & Designation	:
Place	:	Company Name & Address	:
		Company Seal & Phone No.	:

INDEX

Content of Index	Page No.
Chapter 1	
Instructions to Bidder (ITB).	8-20
Chapter 2	
General Conditions of Contract (GCC).	21-30
Chapter 3	
Special Conditions of Contract (SCC).	31-39
Chapter 4	
Technical Specifications.	40-63
Chapter 5	
Other Standard Forms.	64-84
Chapter 6	
Un-priced bid for Supply of items in Rupees.	85
Chapter 7	
Price Bid – Part II for Supply of items in Rupees.	86-96

INSTRUCTIONS TO BIDDER (ITB)

Table of Contents		
Sl. No.	Contents	Page No.
A.	INTRODUCTION	
1	Eligible Bidders	10
2	Cost of Bidding	10
B.	THE BIDDING DOCUMENTS	
1	Content of Bidding Documents	11
2	Clarification of bidding documents	11
3	Amendment of Bidding Documents	11
C.	PREPARATION OF BIDS	
1	Language of Bid	12
2	Bid Form and Price Schedule	12
3	Bid Prices	12
4	Customs Duty	12
5	GST	12
6	Offer from distributor/dealer on behalf of manufacturer	12
7	Conditional Discount	13
8	Bid Currency	13
9	Documents Establishing Bidder's Eligibility and qualifications	13
10	Documents Establishing Goods' Eligibility and Conformity to Bidding Documents	13
11	Period of Validity of Bids	13
12	Format and Signing of Bid	14
13	Status of Individual Signing the offer	14
14	Abnormally high rate or abnormally low rate	14
D.	SUBMISSION AND SEALING OF BIDS	
1	Submission, Sealing and Marking of Bids	15
2	Requirement of Tender submission	16
3	Deadline for Submission of Bids	16
4	Late Bids	16
5	Acceptance of Bid	16
6	Placing of Order	16
E.	OPENING AND EVALUATION OF BIDS	
1	Opening of Bids	17
2	Clarification of Bids	17
3	Preliminary Examination / Performance Bond	17

INSTRUCTIONS TO BIDDER (ITB)

Sl. No.	Contents	Page No.
4	Responsiveness of Bids	18
5	Non-Conformity, Error and Omission	18
6	Examination of Terms & Conditions, Technical Evaluation	19
7	Evaluation and Comparison of bids	19
8	Comparison of Bid	19
9	Landing cost in respect of offer for rupees bid.	19
10	Landing cost in respect of bids in foreign currency.	20
11	Contacting Purchaser	20
12	Post qualification	20
F.	AWARD OF CONTRACT	
1	Negotiations	21
2	Award Criteria	21
3	Award of contract.	21
4	Purchaser's right to vary Quantities at the time of Award	21
5	Purchaser's right to accept any Bid and to reject any or all Bids	21
6	Notification of Award	21
7	Order Acceptance	21

A – Introduction

1.1 Eligible Bidders

Bidders who fulfill the pre-qualification/eligibility criteria as specified in our tender notice are only required to submit their bids and will only be considered for technical evaluation.

Issue/downloading of tender document does not mean that a bidder is qualified to submit the bid. Purchaser's decision in this regard will be final.

1.2 Cost of Bidding

The Bidder shall bear all costs associated with the preparation and submission of its bid, and "Purchaser", will in no case be responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.

B - The Bidding Documents

1.3 Content of Bidding Documents

The goods required, bidding procedure and contract terms are prescribed in the bidding documents which should be read in conjunction.

The Bidder is expected to examine all instructions, forms, terms, and specifications in the bidding documents. Failure to furnish all information required by the bidding documents or submission of a bid not substantially responsive to the bidding documents in every respect will be at the Bidder's risk and may result in rejection of their bid.

1.4 Clarification of bidding documents

A prospective Bidder requiring any clarification of the Bidding Documents shall contact purchaser in writing at purchaser's address specified in the Tender Notice. Purchaser shall forward copies of its response to all those who have acquired the Bidding Documents directly from it, including the query but without identifying its source. Purchaser if deemed necessary will amend the Bidding Documents as a result of a clarification, purchaser shall do so following the procedure under clause relating to amendment of bidding documents and Clause relating to Deadline for Submission of Bids.

1.5 Amendment of Bidding Documents

At any time prior to the deadline for submission of bids, purchaser may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder, modify the bidding documents by amendment.

All prospective bidders who have received the bidding documents will be notified of the amendment in writing or by fax, or by e mail which will be binding on them and the same may also be posted on our website.

In order to allow prospective bidders reasonable time to take the amendment into account, in preparing their bids, purchaser, at its discretion, may extend the deadline for the submission of bids.

C - Preparation of Bids

1.6 *Language of Bid*

The bid prepared by the Bidder, as well as all correspondence and documents relating to the bid exchanged by the Bidder and purchaser, shall be written in **English language only**.

1.7 *Bid form and price schedule*

The bidder shall complete the Bid Form and the price schedules furnished in the bidding documents.

Discount / Prices as applicable to Non Commercial/ Government Educational and Research Institutes should be quoted as purchaser is a Deemed University and also Public Funded Research Institute. Prices for software should be for academic version,

1.8 *Bid Prices*

The price quoted can be **in rupees**.

Price quoted should be on F.O.R. Destination basis. (i.e. total landed cost including safe delivery at NCRA-TIFR, Pune University Campus, Ganeshkhind, Pune 411007, in case of Quote for supply in rupees.

Price must be quoted in our prescribed Price Bid Formats.

“If a bidder quotes NIL charges / consideration, the bid shall be treated as unresponsive and will not be considered”.

1.9 **GST :**

NCRA-TIFR is eligible for concessional GST @ 5% as per Notification No. 45/2017-Central Tax dated 14.11.2017. We shall issue necessary certificate in respect of the same with our order.

2% GST will be deducted as per Government Notification if applicable.

1.10 *Offer from distributor/dealer on behalf of manufacturer*

In case the bid is submitted by distributor/dealer on behalf of OEM, Manufacturer's Authorisation Certificate as per our format, Refer **Annexure – D** must be submitted, failing which bid will be rejected.

1.11 Conditional Discount

In case the bidder offer any conditional discount with regard to acceptance of their bid within a specific period or specific payment terms, delivery, quantity etc. the purchaser will not take in to such conditional discount while evaluating their bid.

1.12 Bid Currency

Prices shall have to be quoted in Indian Rupees and can also quote in any convertible currency. Bidders have to use our price bid format only for quoting the rates.

Purchaser reserves the right to select rupee quote or Direct Import Quote based on landing cost of items at Destination which will be calculated as per Centre's procedure.

1.13 Documents Establishing Bidder's Eligibility and qualifications

The bidder shall furnish, as part of their bid, documents establishing the bidder's eligibility to bid and their qualification to perform the contract if their bid is accepted.

The documentary evidence of the bidders' qualification to perform the contract if the bid is accepted and shall establish to purchaser's satisfaction that, the bidder meets the qualification criteria listed in bidding documents, if any.

1.14 Documents Establishing Goods' Eligibility and Conformity to Bidding Documents

To establish the goods' eligibility, the documentary evidence of the goods and services eligibility shall consist of a statement on the goods and services offered.

(a) An item-by-item commentary on our Technical Specifications demonstrating substantial responsiveness of the goods and services to those specifications or a statement of deviations and exceptions to the provisions of the Technical Specifications.

For purposes of the commentary to be furnished pursuant to above, the Bidder shall note that standards for workmanship, material and equipment, designated by purchaser in its Technical Specifications are intended to be descriptive only and not restrictive.

1.15 Period of Validity of Bids

Bids will have to remain **valid for a minimum of 180 days** from the date of techno commercial bid opening. A bid valid for a shorter period shall be rejected by purchaser as non-responsive.

In exceptional circumstances, purchaser may solicit the Bidder's consent to an extension of the period of validity. The request and the responses thereto shall be made in writing (by fax or e-mail). The EMD provided shall also be suitably extended.

A Bidder may refuse the request without forfeiting their EMD. A Bidder accepting the request will not be required nor permitted to modify their bid.

Bid evaluation will be based on the bid prices without taking into consideration the above corrections.

1.16 Format and Signing of Bid

The bids are to be submitted in two parts as specified in the Tender Notice.

The Bidder shall submit the bids in two parts. First part (Part – I) shall contain Techno commercial bid comprising all documents listed in the Check List, including technical specifications, bill of materials & Drawings, taxes and duties payable, delivery period and validity.

The second part (Part – II) shall contain only the price-bid comprising price schedules with prices.

The bid shall be typed or written in indelible ink and shall be signed by the Bidder or a person or persons duly authorized to bind the Bidder to the Contract. All pages of the bid, except for un-amended printed literature, shall be initialed by the person or persons signing the bid.

Any inter lineations, erasures or overwriting shall be valid only if they are initialed by the person or persons signing the bid.

1.17 Status of Individual signing the offer

Individuals signing the bid form and other connected documents must specify the capacity in which they sign like :

- (a) Whether signing as a Sole proprietor of the firm.
- (b) Whether signing as a partner of the firm.
- (c) Whether signing for the firm as Agent.
- (d) Whether signing as a director of a private/limited company. Power of attorney to sign the bid to be submitted in case of b, c & d.

1.18 Abnormally high rate or abnormally low rate

If the bid is seriously unbalanced in relation to the estimated cost, such bidder will have to submit with their price bid detailed price analysis for any or all items. If the Bill of Quantity / Schedule of work to demonstrate how the price quoted have been arrived at.

D - Submission and sealing of Bids

1.19 Submission, Sealing and Marking of Bids

Bidders are advised to inspect and examine before submitting their bid the following which may influence or affect their bid.

- (a) Nature of Site.
- (b) Access to Site.
- (c) Space and facilities required.
- (d) Loading, unloading and facilities for shifting of items.
- (e) All other necessary information, risks, contingencies and other circumstances.

Submission of bid by a bidder implies that he has studied the tender documents and has made himself aware of the scope and specifications with all its conditions and other factors.

The bidders may submit their duly sealed bids by post/courier. Purchaser will not be responsible for any misplacement/delay/ loss of tender documents & bids in transit. Bidder can also drop the bid in person in the public tender box kept at the reception counter of purchaser after entering the requisite details in the Public Tender Register kept with the Security Supervisor.

Bids are to be submitted in two parts in separate sealed envelopes specifying tender no. Part-I – Techno-Commercial Bid & Part-II – Price Bid. Both the envelopes must be sent in another sealed cover duly superscribing our tender no., due date and name of the Bidder so as to reach us on or before the due date & time and to be submitted to the address given below :

**Purchase Officer,
National Centre for Radio Astrophysics,
Tata Institute of Fundamental Research,
Post Box No. 3, Ganeshkhind,
Pune - 411 007. Maharashtra, India.**

Envelope No. 1: Shall contain “Techno-commercial Bid” (with all the documents listed in Check List) alongwith DD towards Earnest Money Deposit (EMD).

Envelope No. 2: Shall contain only “Price Bid” containing price schedule with prices.

The techno commercial offer **should NOT contain any price information.** It must be submitted in an organized and structured manner. No brochures/leaflets etc. should be submitted in loose form. Please indicate page nos. on your bids, eg. If the bids are containing 25 Pages, please indicate page nos. as 1/25, 2/25, 3/25 -----25/25.

Bids, which are submitted without following sealed two bid system, will be summarily rejected.

The techno commercial bid should contain all commercial terms (except prices) with reference to the bid including drawings.

The techno commercial bid should be complete to indicate that all products and services asked for are quoted. Each page of the bid and cutting/corrections shall be duly signed and stamped by the bidder. **Unsigned bid will be rejected.** Failure to comply with this

requirement may result in rejection of the bid.

If the envelope is not sealed and marked as required above, purchaser will assume no responsibility for the bid's misplacement or premature opening and in such cases bids will get rejected.

1.20 *Requirement of Tender Submission*

Bidder must have to bid for all items in the price bid failing which their bids will not be considered. Details of options and accessories for which rates are quoted to be specified in the technical bid.

The techno-commercial bid should have sufficient details to show point wise compliance to the specifications and shall include a full set of descriptive technical literature of the equipment and system proposed.

The system is to be installed at purchaser's site. For site inspection before submission of tender, the bidder may contact

Shri S.K.Bagde, at GMRT Office
Khodad, Tal – Junnar, Dist Pune-410504
Phone No. 02132-258300 /400
Email. : shailen@ncra.tifr.res.in

In case the required system is not in the range of manufacturing of the bidder or the bidder is not interested to participate in the Tender bidder may send a REGRET letter.

1.21 *Deadline for Submission of Bids*

Bids must reach Purchase officer, NCRA-TIFR, Pune at the address specified in Tender Notice not later than the time and date specified herein. In the event of the specified date for the submission of Bids being declared a holiday for purchaser, the Bids will be received upto the appointed time on the next working day.

Purchaser may, at its discretion, extend the deadline for submission of bids by amending the bid documents in accordance with Clause relating to amendment of bidding Documents in which case all rights and obligations of purchaser and bidders previously subject to the deadline will thereafter be subject to the deadline as extended.

1.22 *Late Bids*

Any bid received by purchaser after the deadline for submission of bids prescribed will be rejected.

Such tenders shall be marked as late and not considered for further evaluation. They shall not be opened at all and will be returned to the bidders in their original envelope without opening.

1.23 **ACCEPTANCE OF BID:** Institute shall be under no obligation to accept the lowest or any other bid received in response to this tender and shall be entitled to reject any or all bids without assigning any reason whatsoever.

1.24 **PLACING OF ORDER :** Institute reserves the right to place the order for part/full/reduced quantity / reduced period than what is specified in the tender and also reserves the right to split the order on more than one bidder.

E - Opening and Evaluation of Bids

1.25 Opening of Bids

Purchaser will open techno commercial bids one at a time in the presence of Bidder's authorized representatives who choose to attend, as per the schedule given in Tender Notice. The Bidders' representatives who are present shall sign the bids opening sheet evidencing their attendance. In the event of the specified date of bid opening being declared a holiday for purchaser, the Bids shall be opened at the appointed time and location on the next working day. The Price bids shall be opened only after technical evaluation & the date for the same will be intimated to technically qualified bidders at a later date.

The bidders names and the presence or absence of requisite EMD and such other details as purchaser, at its discretion, may consider appropriate, will be announced during the opening.

a) Bids that are received late shall not be considered further for evaluation, irrespective of the circumstances.

b) Bidders interested in participating for bid opening, should depute their representatives along with an authority letter to be submitted to purchaser at the time of bid opening.

c) Only one representative of each bidder will be permitted during opening of bids.

1.26 Clarification of Bids

To assist in the examination, evaluation, comparison and post qualification of the bids, purchaser may, at its discretion, ask the Bidder for a clarification on their bid. The request for clarification and the response shall be in writing and no change in prices or substance of the bid shall be sought, offered or permitted. However, no negotiation in respect of prices shall be held except with the lowest bidder, at the discretion of purchaser. Any clarification submitted by a bidder in respect to their bid which is not in response to a request by purchaser shall not be considered.

1.27 Preliminary Examination

Purchaser shall examine the bids to confirm that all documents and technical documentation requested have been provided to determine the completeness of each document submitted.

Purchaser shall confirm that the following documents and information have been provided in the Bid. If any of these documents or information is missing, the offer shall be rejected.

(a) Bid Form and Price Schedule;

(b) All the bids received will first be scrutinized to see whether the bids meet the basic requirements as incorporated in the bid document. The bids, which do not meet basic requirements, will be treated as unresponsive and ignored. *The following are some of the important points, for which a bid will be declared as unresponsive and will not be considered for further evaluation:*

(i) The Bid is unsigned.

(ii) The Bidder is not eligible.

(iii) The Bid validity is shorter than the required period.

(iv) The Bidder has quoted for goods manufactured by a different firm other than what has

been specified in the tender document.

(v) Bidder has not agreed to give the required security deposit & Performance Guarantee.

(vi) The goods quoted are sub-standard, not meeting the required specification etc.

(vii) Against the schedule of Requirement (incorporated in the bid), the bidder has not quoted for the entire requirement as specified in that schedule.

(viii) The bidder has not agreed to some essential condition(s) incorporated in the bid.

1.28 Responsiveness of Bids

Prior to the detailed evaluation, purchaser will determine the substantial responsiveness of each bid to the bidding documents. For purposes of this clause, a substantive responsive bid is one, which conforms to all terms and condition of the bidding documents without material deviations, reservations or omissions. A material deviation, reservation or omission is one that:

(a) Affects in any substantial way the scope, quality, or performance of the Goods and Related Services specified in the Contract; or

(b) Limits in any substantial way, inconsistent with the Bidding Documents, purchaser's rights or the Bidder's obligations under the Contract; or

(c) If rectified, would unfairly affect the competitive position of other bidders presenting substantially responsive bids.

Purchaser's determination of a bid's responsiveness will be based on the contents of the bid itself.

If a bid is not substantially responsive, it will be rejected by purchaser and may not subsequently be made responsive by the bidder by correction of the material deviation, reservation or omission.

1.29 Non-Conformity, Error and Omission

Provided that a bid is substantially responsive, purchaser may waive any nonconformity or omissions in the bid that do not constitute a material deviation.

Provided that a bid is substantially responsive, purchaser may request the bidder to submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformity or omissions in the bid related to documentation requirements. Such omission shall not be related to any aspect of the price of the bid. Failure of the Bidder to comply with the request may result in the rejection of their bid.

Provided that the bid is substantially responsive, purchaser shall correct arithmetical errors on the following basis:

(a) If there is a discrepancy between the unit price and the line item total that is obtained by multiplying the unit price by the quantity, the unit price shall prevail and the line item total shall be corrected;

(b) If there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and

(c) If there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) and (b) above.

Provided that a bid is substantially responsive, purchaser may request that a bidder may confirm the correctness of arithmetic errors as done by purchaser within a target date. In case, no reply is received then the bid submitted shall be ignored and its **Earnest Money** will be forfeited.

If the price for an item with same part no. is quoted differently at different place, lower rate will be taken as the price of the item.

In the event no rate has been quoted in words or figures for any item/items it will be presumed that the contractor/supplier has included the cost of this/these item/items in other item and rate for such item/items will be considered as zero & supply/work will be required to be executed accordingly.

In case of any tender where unit rate of any item/items quoted is unrealistic, such a tender is liable to be disqualified & rejected.

1.30 Examination of Terms & Conditions, Technical Evaluation

Purchaser shall examine the Bid to confirm that all terms and conditions specified in the bid document have been accepted by the Bidder without any material deviation or reservation.

Purchaser shall evaluate the technical aspects of the Bid submitted to confirm that all requirements specified in Schedule of Requirements of the Bidding Documents have been met without any material deviation or reservation.

1.31 Evaluation and comparison of bids

Purchaser shall evaluate each bid that has been determined, up to this stage of the evaluation, to be substantially responsive.

To evaluate a Bid, purchaser shall only use all the factors, methodologies and criteria defined in the bid documents.

The price bids shall be evaluated on the basis of final landing cost which will be calculated as per Institute procedure to bring quotes on equal footing including charges towards installation, commissioning and testing at destination.

1.32 COMPARISON OF BID :

Price quoted in foreign currency shall be converted to equivalent rupees. Exchange rate as on date of opening of the price bids shall be considered for this purpose.

1.33 Contacting Purchaser

Any effort by a Bidder to influence purchaser in its decisions on bid evaluation, bid comparison or contract award may result in rejection of their bid.

1.34 Post qualification

In the absence of pre-qualification, purchaser will determine to its satisfaction whether the bidder/bidders who is/are selected as having submitted the lowest evaluated responsive bid is qualified to perform the contract satisfactorily, in accordance with the bid document.

The determination will take into account the eligibility criteria listed in the bidding documents and will be based upon an examination of the documentary evidence of the bidder's qualifications submitted by the bidder, as well as such other information as purchaser deems necessary and appropriate.

An affirmative determination will be a prerequisite for award of the contract to the bidder. A negative determination will result in rejection of the bidder's bid.

F- Award of Contract

1.35 Negotiations

There shall not be any negotiation normally. Negotiations shall be held with the lowest evaluated responsive bidder if required. Counter offers tantamount to negotiations and shall be treated at par with negotiations in the case of one time purchases.

1.36 Award Criteria

Purchaser will award the contract to the successful Bidder whose bid has been determined to be substantially responsive and has been determined to be the lowest evaluated bid.

1.37 AWARD OF CONTRACT :

If the rates quoted by more than one bidder are same and lowest. NCRA reserves the right to decide the criteria and proceeding further for awarding the contract. Decision of NCRA-TIFR, Pune shall be final in this regard.

1.38 Purchaser's right to divide/vary the Quantities at the time of Award

Purchaser reserves the right at the time of Contract award to decrease the quantity of goods and services originally specified in the Schedule of Requirements without any change in unit price or other terms and conditions. Further, the purchaser may also divide the quantity and place orders on two or more suppliers. Purchaser also reserves the right to place or not to place order for Spares/accessories.

1.39 Purchaser's right to accept Any Bid and to reject any or all Bids

The Centre Director, NCRA reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to award of Contract, without thereby incurring any liability to the affected Bidder or Bidders.

1.40 Notification of Award

Prior to the expiration of the period of bid validity, purchaser may notify the successful bidder in writing by registered letter or fax or e mail that the bid has been accepted and a separate work order shall follow.

Until a formal order is prepared and sent, the notification of award should constitute a binding contract.

Upon placing order on successful Bidder's, purchaser will release the **Earnest Money** to all unsuccessful bidders.

1.41 Order Acceptance

The successful bidder should submit Order acceptance **within 21 days** from the date of issue, failing which it shall be presumed that the bidder is not interested and their **Earnest Money** will be forfeited.

Purchaser has the powers to extend the time frame for submission of order confirmation and submission of Security deposit. Even after extension of time, if the order confirmation and security deposit are not received, the contract may be cancelled and limited tenders irrespective of the value shall be invited from the responding firms after forfeiting the **Earnest Money** of the defaulting firm, where applicable, provided there is no change in specifications. In such cases the defaulting firm shall not be considered again for re-tendering.

CHAPTER 2

GENERAL CONDITIONS OF CONTRACT (GCC)

Table of Contents		
Sl. No.	Contents	Page No.
1	Definitions	23
2	Amalgamation /Acquisition	25
3	Scope of Supply	25
4	Suppliers' Responsibilities	25
5	Contract price	25
6	Copy Right	25
7	Application	25
8	Standards	25
9	Patent/design/copy right/trade mark Indemnity	26
10	Packing	26
11	Delivery of items	26
12	Duration for Completion of contract	26
13	Incidental Services	27
14	Despatch documents	27
15	Severability	27
16	Assignment	27
17	Indemnity	27
18	Preference to Make in India.	27
19	Manufacturers Registered as MSME and with NSIC	27
20	Extension of time	28
21	Termination for Default	28
22	Force Majeure	28
23	Termination for Insolvency	29
24	Termination for Convenience	29
25	Discrepancies and Order of Preferences.	29
26	Governing Language	29
27	Applicable Law/Jurisdiction	29
28	Notices	30
29	Right to use Defective Goods	30
30	Materials	30
31	Waiver	30
32	Purchaser's Comments	30
33	Responsibility of Vendor	30
34	Settlement of Disputes	31
35	Arbitration.	31

2.1 Definitions

The following words and expressions shall have the meanings hereby assigned to them:

- a) The term “General Contractor” shall refer to the Interior Contractor
- b) The term “Consultant” shall refer to AV consultant of the project.
- c) The term “Bidder” shall refer to a firm submitting a bid response to this specification.
- d) The term “Contractor” shall refer to the Systems Contractor who has been awarded the contract for the subject job and who has responsibility for performance of the work specified herein.
- e) The term “NIC” shall refer to material and work which is Not In Contract and for which the Contractor is not responsible except as otherwise detailed herein.
- f) The term “OFE” shall refer to “Owner Furnished Equipment”, which will be provided by the Client. The Contractor shall be responsible for removing this equipment from the Client’s premises, and re-installing and integrating this equipment in good working order as detailed herein.
- g) “Supply” as used in this section means “to supply, complete with instructions, for installation by others.
- h) “Provide” as used in this section means “to furnish, install and make operable”.
- i) “NIC” as used in this section and on the contract drawings means “not included in this contract, not to be supplied”.
- j) “By Others” as used in this section and on the drawings means “not included in this contract, supplied as part of another contract”.
- k) “Or As Approved” as used in this section and on the drawings means “substitution only after written approval by the Consultant”.
- l) The term “shall” is mandatory; the term “will” is informative; the term “should” is Advisory; and the term “provide” means furnish and install.
- m) The term “equivalent” as used in this section and on the contract documents means the same specification as provided or higher specification and the opinion of the Consultant shall be final in this matter
- n) “Contract/purchase order/work order” means the order placed by purchaser on the Supplier, together with the Documents referred to therein, including all attachments, appendices, and all documents incorporated by reference therein
- o) “Contract Documents” means the documents listed in the work order, including any amendments thereto.
- p) “Contract Price” means the price payable to the Supplier as specified in the contract, subject to such additions and adjustments thereto or deductions there from, as may be made pursuant to the Contract.
- q) “Day” means calendar day.
- r) “Completion” means the fulfillment of the Related Services by the Supplier in accordance with the terms and conditions set forth in the Contract.
- s) “GCC” means the General Conditions of Contract.
- t) “Related Services” means the services incidental to the supply of the goods, such as transportation, insurance, installation, configuration, training and initial maintenance and other such obligations of the Supplier under the Contract.
- u) “SCC” means the Special Conditions of Contract.
- v) “Subcontractor/sub vendor/sub fabricator” means any natural person, private or government entity, or a combination of the above, to whom any part of the Goods to be supplied or execution of any part of the Related Services is subcontracted by the Supplier & shall include his heirs, legal representatives, successors and permitted assigns.
- w) “BoM” means bill of material.
- x) ‘Centre Director’ shall mean Center Director, NCRA-TIFR, Pune & shall include his successor and assigns, as well as his authorized officers/ representatives
- y) ‘Engineer’ shall mean the engineer/representative of the owner/ purchaser.

- z) 'Bidder / Tenderer/Contractor' shall mean the firm/ party who bids against an enquiry / tender.
- aa) 'Vendor/ Contractor/ Fabricator/Supplier' shall mean the successful BIDDER whose bid has been accepted by the owner/ purchaser and on whom the 'Contract' or 'Purchase Order' is placed by the owner/purchaser and shall include his heirs, legal representatives, successors and permitted assigns.
- bb) 'Manufacturer' refers to a person or firm who is the producer and furnisher of material or designer and fabricator of equipment to either the owner/ purchaser or the vendor/ contractor or both under the contract.
- cc) 'Others' shall mean other successful bidders whose bids have been accepted by the owner/ purchaser and shall include their heirs, legal representatives, successors and permitted assigns.
- dd) Owner / Purchaser / Centre /Institute/Client mean NCRA-TIFR Pune.
- ee) 'Inspector' shall mean the authorized representatives appointed by the owner/ purchaser for purposes of the inspection of materials/ equipment/ works.
- ff) 'Site' shall mean the actual place of the proposed work as detailed in the specification or other place where work has to be executed under the contract or item to be supplied.
- gg) 'Month' shall mean calendar month.
- hh) 'Specification' shall mean collectively all the terms and stipulations contained in those portions of the 'Contract' known as General Conditions, the Specifications and such Amendments, Revisions, Deletions or Additions, as may be made in the Agreement and all written Agreements made or to be made pertaining to the method and manner of performing the Work or to the quantities and qualities of the materials to be furnished under this 'Contract'
- ii) 'Bid' shall mean the proposal/ document that the BIDDER submits in the requested and specified form in the 'Specification'.
- jj) 'Item' 'Items' 'Goods' 'Stores' 'Plant' or 'Equipment' and 'Work' or 'Works' shall mean respectively the goods to be supplied and services to be provided by the vendor/ contractor/ fabricator under the 'Purchase Order' or 'Contract'.
- kk) 'Date of Contract' shall mean the calendar date on which the owner/ purchaser and vendor/ contractor/ fabricator have signed the 'Contract'. 'Effective Date of Contract' shall mean the calendar date on which the owner/ purchaser have issued to the vendor the 'Letter of Intent' or three months prior to the 'Date of Contract' or six months prior to the date of issue of import license whichever is later or as otherwise mutually agreed to between the owner/ purchaser and the vendor.
- ll) 'Contract Period' shall mean the period during which the 'Contract' shall be executed as agreed between vendor/ contractor/ fabricator and owner/ purchaser in the 'Contract'.
- mm) 'Warranty' / 'Guarantee Period' shall mean the period during which the 'Plant' or 'Equipment' shall give the same performance as guaranteed by the vendor in the Schedule of Guarantee as in the 'Specification'.
- nn) 'Approved' and 'Approval' where used in the 'Specification' shall mean respectively approved by and approval of the owner/ purchaser
- oo)bb. When the words 'approved', 'approval', 'subject to approval', 'satisfactory', 'equal to', 'proper', 'requested', 'as directed', 'where directed', 'when directed', 'determined', 'accepted', 'permitted', or words and phrases of like import are used, the approval, judgment, direction etc. is understood to be a function of the owner/ purchaser.
- pp) 'Engineer's Instructions' shall mean any drawings and / or instructions oral and/ or in writing, details representative of the owner/ purchaser from time to time during the 'contract period'.
- qq) 'Writing' shall include any manuscript, typewritten or printed statement, under or over signature and/ or seal as the case may be.
- rr) "Notice in Writing" or 'Written Notice' shall mean a notice in written, typed or printed

characters sent (unless delivered personally or otherwise proved to have been received) by registered post to the last known private or business address or registered office of the addressee and shall be deemed to have received when the ordinary course of post it would have been delivered.

- ss) 'Contractor's Works' or 'Manufacturer's Works' shall mean and include the land and the other places which are used by the Vendor/ Contractor/ Fabricator or Sub-vendor/ Sub-contractor/ Sub-fabricator for the manufacture of the 'Equipment' or performing the 'Works'.
- tt) 'Commissioning' shall mean integrated activity covered under 'Preliminary Operation', 'Trial Operation' and carrying out 'Performance Tests'.
- uu) 'Trial Operation' shall mean the integrated operation of the Plant, system/ Equipment covered under the 'Contract' for a specified period at a specified load for providing trouble-free operation of the Plant/ system/ Equipment covered under the 'Contract'.
- vv) 'Performance Tests' shall mean such tests as are prescribed in the 'Specification', to be done by the vendor before the Plant is taken over under guarantee by the owner/ purchaser.
- ww) 'Virtual Completion' shall mean that all Work is completed as directed and the 'Site' is cleared to the satisfaction of the owner/ purchaser.
- xx) 'Commercial Use' shall mean that use of the 'Equipment' or 'Work' which the 'Contract' contemplates or that for which 'Equipment' or 'Work' is commercially capable.
- yy) 'Minor Modification' as applied to equipment erection contracts only, shall mean the modification work required to be done on the 'Equipment' or 'Work' which need a maximum of 48 man-hours per item of work. In the case of civil contracts, it shall be 'Works' which need a maximum of 8 man-hours per item of work.
- zz) 'Major Modification' as applied to equipment erection contracts only, shall mean the modification work required to be done on the 'Equipment' and 'Works' needing more than 48 man-hours per item of work, where such work is required to be done for no fault of the Vendor/ Contractor. In the case of work contracts, it shall be 'Works' needing more than 8 man-hours per item of work.

2.2 Amalgamation/Acquisition

In the event the Manufacturer/Supplier proposes for amalgamation, acquisition or sale of its business to any firm during the contract period, the Buyer/Successor of the Principal Company are liable for execution of the contract and also fulfillment of contractual obligations i.e. supply, installation, commissioning, configuration, warranty, maintenance/replacement of spares accessories etc. while submitting your bid, Bidders need to confirm the same in writing.

2.3 Scope of Supply

The Goods and Related Services to be supplied shall be as specified in the Price Schedule.

2.4 Suppliers' Responsibilities

The Supplier shall supply all the Goods and Related Services included in the BoM, and the Delivery and Completion schedule. Supply means : "Supply, Schedule, as per GCC Clause relating to delivery and document. Design, Installation, testing, Commissioning and satisfactory demonstration of the whole system and training & providing after sales services during warranty period". Charges payable for the same should be specified in the

price bid.

2.5 Contract price

Prices charged in INR only by the Supplier for the Goods supplied F.O.R GMRT Khodad, performed and the related services performed under the Contract shall be firm. No upward enhancement will be accepted.

2.6 Copy Right

The copyright in all drawings, documents, and other materials containing data and information furnished to purchaser by the Supplier herein shall remain vested in the Supplier, or, if they are furnished to purchaser directly or through the Supplier by any third party, including suppliers of materials, the copyright in such materials shall remain vested in such third party.

2.7 Application

These General Conditions shall apply to the extent that they are not superseded by provisions in other parts of the Contract.

2.8 Standards

The Goods supplied and services rendered under this Contract shall conform to the standards mentioned in the Technical Specifications and Schedule of Requirements, and, when no applicable standard is mentioned, to the authoritative standard appropriate to the Goods' country of origin and such standards shall be the latest issued by the concerned institution.

2.9 Patent/design/copy right/trade mark / third party claim Indemnity

The Supplier shall indemnify and hold harmless purchaser and its employees and officers from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which purchaser may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright, or other intellectual property right registered or otherwise existing at the date of the Contract by reason of: (a) the installation of the Goods by the Supplier or the use of the Goods in India; and (b) the sale in any country of the products produced by the Goods.

If any proceedings are brought or any claim is made against purchaser, purchaser shall promptly give the Supplier a notice thereof, and the Supplier may at its own expense and in the purchaser's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim.

2.10 Packing

The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination as indicated in the Contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit and open storage. Packing case size and weights permissible under existing road/rail/sea limitations and shall take into consideration, the remoteness of the Goods' final destination and the

absence of heavy handling facilities at all points in transit.

The packing, marking and documentation within and outside the packages shall comply strictly with such special requirements as shall be provided for in the Contract including additional requirements, if any, specified in SCC and in any subsequent instructions given by purchaser.

Even when no packing specification is included it will be suppliers responsibility to provide appropriate packing depending upon the nature of the supply and the transportation and handling hazards.

The equipment shall be so packed and protected as not to suffer deterioration, damage or breakage during shipment and storage in a tropical climate.

Each package shall be properly labeled to indicate the type and quantity of material it contains, the purchase order number its dimensions and weights and any other necessary data to identify the equipment and relate it to contract. Packing slip containing description of item & qty. must be affixed on the box.

Empty packages / packing material will become property of the owner.

If wood has been used for packing, Fumigation certificate to be provided with the shipment.

2.11 *Delivery of items*

Supplier/manufacturer will have to deliver the item/s at delivery point specified in SCC.

2.12 *Duration for Completion of contract.*

The items will have to be supplied within the period specified in the SCC.

2.13 *Incidental Services*

The supplier may be required to provide any or all of the services, if any, specified in SCC.

2.14 *Despatch Documents*

2.14.1 The following documents in original are to be sent to Purchaser.

- a. Full set of invoice showing Quantity and Amount.
- b. Packing slip indicating no. of packages, gross and net weight.
- c. Manufacturers internal test, inspection certificates.
- d. Soft copy of user / instruction installation manuals in English.
- e. Inspection certificate issued by the Purchaser's Inspector, if any;
- f. Guarantee/Warranty certificates issued by Original Equipment Manufacturer.
- g. Fumigation Certificate if wood is used in packing.

2.14.2 The following documents are to be handed over to the carrier / transporter while handing over the item.

- a. Three Sets of Invoice.
- b. Two Sets of packing slip.
- c. Fumigation Certificate if wood has been used in packing.

2.15 *Severability :*

If any provision of this contract is determined to be invalid or unenforceable, it will deemed

to be modified to the minimum extent necessary to be valid and enforceable. If it can not be so modified, it will be detected and deletion will not affect the validity or enforceability of any other provision.

2.16 *Centre reserve the right to reject the bid in case any discrepancy is observed in the unpriced bid and actual price bid.*

2.17 Assignment

The Supplier shall not assign, in whole or in part, its obligations to perform under the Contract to third party, except with purchaser's prior written consent.

2.18 Indemnity :

Selected bidder shall also, indemnify and hold harmless centre from any third party, Govt. claim, losses, penalties if any arising in connection with this contract.

2.19 *Deleted*

2.20 *Deleted*

2.21 Extension of time

Delivery of the Goods and performance of the Services shall be made by the Supplier in accordance with the time schedule specified by purchaser.

If at any time during performance of the Contract, the Supplier or its sub-contractor(s) should encounter conditions impeding timely delivery of the Goods and performance of Services, the Supplier shall promptly notify purchaser in writing the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the Supplier's notice, purchaser shall evaluate the situation and may, at its discretion, extend the Supplier's time for performance with or without penalty, in which case the extension shall be ratified by the parties by amendment of the Contract.

Except as provided under the Force Majeure clause of the GCC, a delay by the Supplier in the performance of its delivery obligations shall render the Supplier liable to the imposition of liquidated damages unless an extension of time is agreed upon pursuant to above clause without the application of liquidated damages clause.

2.22 Termination for Default

Purchaser may, without prejudice to any other remedy for breach of contract, by written notice of default sent to the Supplier, terminate the Contract in whole or part

(a) If the Supplier fails to deliver any or all of the Goods within the period(s) specified in the contract, or within any extension thereof granted by purchaser; or

(b) If the Supplier fails to perform any other obligation(s) under the Contract.

(c) If the Supplier, in the judgment of purchaser has engaged in corrupt or fraudulent or collusive or coercive practices as defined in instruction to bidder on Fraud or Corruption in competing for or in executing the Contract.

In the event Purchaser terminates the contract in whole or in part, it may take recourse to

any one or more of the following action:

- a) Forfeiting Security deposit;
- b) Purchaser may procure, upon such terms and in such manner as it deems appropriate, item / equipment similar to those undelivered, and the supplier shall be liable for all available actions against it in terms of the contract.
- c) However, the supplier shall continue to perform the contract to the extent not terminated.

2.23 Force Majeure

Notwithstanding the provisions of GCC Clauses relating to extension of time, penalty and termination for default, Supplier shall not be liable for forfeiture of their Security deposit, liquidated damages or termination for default, if and to the extent that, its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.

For purposes of this Clause, “Force Majeure” means an event or situation beyond the control of the Supplier that is not foreseeable, is unavoidable, and its origin is not due to negligence or lack of care on the part of the Supplier. Such events may include, but not be limited to, acts of purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, earthquakes, storms and freight embargoes.

If a Force Majeure situation arises, the Supplier shall promptly notify purchaser in writing of such conditions and the cause thereof within 21 days of its occurrence. Unless otherwise directed by purchaser in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

If the performance in whole or in part or any obligations under the contract is prevented or delayed by any reason of force majeure for a period exceeding 60 days, either party may at its option terminate the contract without any financial repercussions on either side.

2.24 Termination for Insolvency

Purchaser may at any time terminate the Contract by giving written notice to the Supplier, if the Supplier becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the Supplier, provided that such termination will not prejudice or affect any right of action or remedy, which has accrued or will accrue thereafter to purchaser.

2.25 Termination for Convenience

Purchaser, by written notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time. The notice of termination shall specify that termination is for the purchaser's convenience, the extent to which performance of the Supplier under the Contract is terminated, and the date upon which such termination becomes effective.

The Goods that are complete and ready for shipment within 30 days after the Supplier's receipt of notice of termination shall be accepted by purchaser at the Contract terms and prices. For the remaining Goods, purchaser may elect:

- (a) To have any portion completed and delivered at the Contract terms and prices; and/or
- (b) To cancel the remainder and pay to the Supplier an agreed amount for partially completed Goods and for materials and parts previously procured by the Supplier.

2.26 Discrepancies & Order of Preferences:

In case of ambiguities or discrepancies following order of preferences shall hold good :

- a. Purchase Order.
- b. Technical Specifications
- c. Special Conditions of contract.
- d. General Conditions of Contract.

2.27 Governing Language

The contract shall be written in English language which shall govern its interpretation. All correspondence and other documents pertaining to the Contract, which are exchanged by the parties, shall be written in the English language only.

2.28 Applicable Law/Jurisdiction

The Contract shall be interpreted in accordance with the laws of the Union of India and all disputes shall be subject to place of jurisdiction as specified in SCC.

2.29 Notices

Any notice given by one party to the other pursuant to this contract/order shall be sent to the other party in writing or by e-mail or confirmed in writing to the other party's address specified in the SCC.

A notice shall be effective when delivered or on the notice's effective date, whichever is later.

2.30 Right to use Defective Goods

If after delivery, acceptance and installation and within the guarantee and warranty period, the operation or use of the goods proves to be unsatisfactory, purchaser shall have the right to continue to operate or use such goods until rectifications of defects, errors or omissions by repair or by partial or complete replacement is made without interfering with purchaser's operation.

2.31 Materials

All goods or materials shall be supplied strictly in accordance with the specifications stated in the purchase order or change orders issued by the purchaser.

All goods or materials supplied or used shall be new and of first quality should not be obsolete & going to be obsolete. Where foreign or partly foreign goods or materials are offered or intended to be used, the fact must be specifically stated and brought to the notice of the purchaser.

2.32 Waiver

Purchaser shall be at liberty to waive any breach of any terms or conditions or warranty. Waiver by purchaser or a breach by vendor or any provision of the order shall not be deemed a waiver of future compliance therewith and such provision shall remain in full force and effect.

2.33 Purchaser's Comments

Vendor shall not be relieved of his obligations under the order, including but not limited to his warranty obligations stated herein by incorporating Purchaser's design and fabrication comments into the goods ordered hereunder.

2.34 Responsibility of Vendor

Upon oral or written notification of defects in or malfunctioning of the goods during normal operation, which require corrective action, vendor shall send the necessary personnel to job site to supervise and assume responsibility for repairs and/ or replacement, if necessary of the defective goods or material. If vendor does not expeditiously take steps to correct the breach, purchaser may do so at the cost and expenses incurred by purchaser to repair or replace malfunctioning or nonconforming goods.

Equipment, items or components repaired or replaced by vendor shall have warranty till completion of three years from the date of installation of the equipment.

2.35 **SETTLEMENT OF DISPUTE :** For any dispute arising out of the contract, it should be the intention of both the parties to settle the matter amicably without referring it to the Court of Law. In case dispute is not getting settled amicably it will be referred to arbitration as under.

2.36 **ARBITRATION :**

2.36.1 Purchaser and the contractor shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.

2.36.2 If, after twenty-one (21) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either purchaser or the contractor may give notice to the other party of its intention to commence arbitration, as hereinafter provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given. Any dispute or difference in respect of which a notice of intention to commence arbitration has been given in accordance with this Clause shall be finally settled by arbitration. Arbitration may be commenced prior to or after delivery of the Goods under the Contract.

2.36.3 The dispute settlement mechanism/arbitration proceedings shall be concluded as under:

(a) In case of Dispute or difference arising between purchaser and contractor relating to any matter arising out of or connected with this agreement, such disputes or difference shall be settled in accordance with the Indian Arbitration & Conciliation Act, 1996, the rules there under and any statutory modifications or re-enactments thereof shall apply to the arbitration proceedings. The dispute shall be referred to the sole arbitrator mutually acceptable to contractor and purchaser. The award of the arbitrator so appointed shall be final, conclusive and binding on all parties to this order. Charges of the arbitrator will have to be shared equally by the Contractor and the Purchaser.

2.36.4 The venue of the arbitration shall be the place from where the purchase order or contract is issued.

CHAPTER 3

SPECIAL CONDITIONS OF CONTRACT (SCC)

Table of Contents		
Sl. No.	Contents	Page No.
1	Purchaser	33
2	Address where goods are to be delivered and installed	33
3	Scope of Work	33
4	Earnest Money Deposit (EMD)	33
5	Security Deposit.	34
6	Terms and Conditions applicable for supply of items in Rupees	35
7	Terms and Conditions for Direct Import by Purchaser	36
8	Evaluation Criteria.	36
9	Duration for completion of work/delivery period	36
10	Liquidate Damages	37
11	Inspection & Acceptance	37
12	Test Certificate.	37
13	Warranty	37
14	Payment Terms	38
15	Billing Address.	38
16	Shipment should not be addressed to any Individuals name.	38
17	Airport of Destination.	38
18	Ship to / Final Destination.	38
19	Removal of Rejection.	38
20	Recovery of Sums Due	39
21	Formation of Technical and Evaluation Committee	39
22	Terms of the Technical Evaluation Committee	39
23	Past Performance	39
24	Export Licence / Export Permission.	40
25	Applicable Law and Jurisdiction of Court	40

Chapter 3

SPECIAL CONDITIONS OF CONTRACT (SCC)

The following Special Conditions of Contract (SCC) shall supplement and / or amend the General Conditions of Contract (GCC). Whenever there is a conflict, the provisions herein shall prevail over those in the GCC.

3.1 *The Purchaser is:*

**National Centre for Radio Astrophysics
Tata Institute of Fundamental Research
Pune University Campus, Ganeshkhind,
Pune - 411007, Maharashtra, India
Phone : +91 20 2571 9000/9111
Fax : +91 20 25692149
E-mail : purchase@ncra.tifr.res.in**

3.2 *Address where goods are to be delivered and installed is ;*

**Giant Metrewave Radio Telescope (GMRT) Office,
Tata Institute of Fundamental Research (TIFR),
At. Post. Khodad, Tal. Junnar,
Dist. Pune 410504
Phone : +91 2132 258300/8400
Fax : +91 2132 252120
E-mail : stores@ncra.tifr.res.in**

3.3 *Scope of Work*

Supply of items as specified in **Chapter – 4** of this tender document.

3.4 Work specified herein shall be the responsibility of a single Audio Visual integration contractor.

3.5 All employees used by the contractor to install this system must be competent technicians who are experienced in the installation and interconnection of professional audio visual systems.

3.6 *Earnest Money Deposit (EMD)*

Earnest Money Deposit is obtained to ensure the earnestness of the tenderer in the participation of the tender and as a deterrent against the tenderer withdrawing or altering his bids during the bid validity.

Quantum of Earnest Money Deposit

Earnest Money Deposit of **Rs. 1,40,000/-**.

Form of Earnest Money Deposit

In the form of Demand Draft drawn in favour of “TIFR” payable at Pune.

Rejection of Tenders not Accompanied with Earnest Money Deposit

Tenders/offers from the tenderers not accompanied with Earnest Money Deposit, as demanded, will be rejected summarily.

Refund of Earnest Money Deposit

- (i) Earnest Money Deposit of other unsuccessful tenderers except the successful bidder will be returned after award of the contract. EMD of the successful bidder will be released on receipt of Security Deposit as per **Clause No. 3.5** No interest will be payable in case of delay.
- (ii) EMD of bidder who are not technically qualified will be released on receipt of Technical Evaluation Report.

The Earnest Money Deposit will be forfeited:

- (a) If a Bidder withdraws or amends or impairs or derogates its bid during the period of bid validity specified by the Bidder on the Bid Form; or
- (b) In case of a successful Bidder, if the Bidder fails to furnish order acceptance within 15 days of the order or fails to furnish Security deposit within 21 days from the date of order or before the extended date.

3.7 Security Deposit

Security Deposit to be furnished by the successful bidder within **21 days** of the order for satisfactory performance of the contract. “Satisfactory performance of the contract here means acceptance of the material in respect of supply contracts and satisfactory completion of installation & commissioning and issue of acceptance certificate.

Quantum of Security Deposit

Security Deposit shall be for an amount of **Ten Percentage (10%)** of the order value Including all taxes and duties.

Forms of Security Deposit :

Security Deposit can be in the form of Demand Draft in favour of “TIFR” payable at Pune **OR** Bank Guarantee (BG) in favour of Centre Director, NCRA-TIFR, Pune as per the prescribed format. The Bank Guarantee should be from any one of the nationalized banks or Scheduled banks and executed on non-judicial stamp paper of appropriate value. The BG should be valid upto at least 2 months beyond the contractual date for completion of the order.

The Bank Guarantee should be submitted within 21 days from the date of receipt of our order failing which order will be cancelled.

In case the successful bidder expresses inability to obtain the Bank Guarantee, the Security Deposit can also be accepted in the form of Demand Draft/Banker's Cheque issued by any one of the Scheduled Bank drawn in favour of “TIFR” payable at Pune.

Refund of Security Deposit

Security Deposit is taken for the due performance of the Contract and become liable to be refunded when the Contractor has duly performed and completed the Contract in all respect.

The proceeds of the security deposit shall be payable to purchaser as compensation for any loss resulting from the Supplier's failure to execute the order.

The security deposit will be discharged by purchaser and returned to the Supplier after completion of the contract.

In the event of any contract amendment, the supplier shall, **within 21 days** of receipt of such amendment, furnish the amendment to the security deposit, rendering the same valid for the duration of the contract.

No Interest will be paid on Security Deposit.

Forfeiture of Security Deposit

Security Deposit taken for due performance of the Contract can be forfeited in the event of a breach of contract.

Bank Guarantee obtained towards Security Deposit will be invoked when there is a specific breach on the part of the supplier.

Performance Guarantee / Performance Bond

Performance Bond is obtained as a back-up surety for fulfilment of warranty obligation by the Contractor after satisfactory completion of the contract.

Form of Performance Bank Guarantee

Bank Guarantee as per prescribed format to be executed from any one of the nationalized banks or Scheduled bank on non-judicial stamp paper of appropriate value.

Quantum & Value of Performance Bank Guarantee

Bank Guarantee should be for **Ten Percentage (10%)** of the total value of the purchase / work order including all taxes and duties, Freight and Customs Clearance, Insurance etc.

Validity of Performance Bank Guarantee

Bank Guarantee should be valid till at least two months beyond the expiry date of warranty period.

Performance Guarantee Amount will not carry any interest.

3.8 TERMS AND CONDITIONS APPLICABLE FOR SUPPLY OF ITEMS IN RUPPES

- a. Bidder have to quote considering that purchaser shall provide Concession GST Certificate as stated in **Clause No. 1.9 in Section C of Chapter 1** of the tender document.
- b. Concessional Customs Duty paid against our Certificate will be reimbursed if item to be imported.
- c. Certificate for availing concessional GST of 5% shall also be issued by the Centre.
- d. Purchaser will not be responsible for any demurrage / wharfage etc. on account of any reasons for delay in clearance of shipment.
- e. All items in full quantity must be delivered in one lot.

- f. Responsibility for safe delivery of all items at destination will be of the supplier and hence they must take all suitable measures including obtaining transit insurance at their cost.
- g. Bank Guarantee towards security deposit and performance guarantee can be submitted by the OEM directly or by their authorized Indian bidder.
- h. If item is imported all relevant documents must be submitted to purchaser by the successful bidder even though order is placed in rupees.
- i. **EXCHANGE RATE PRICE ADJUSTMENT** : (Applicable only for bid in rupees). If bidder is not able to keep rupee price quoted valid till supply of items, they need to specify the base exchange rate prevailing seven days prior to due date for submission of bid. If the exchange rate on the date of ordering and on the date of supply (before due date specified in Purchase Order) differs by +/- Five Percent then price shall be calculated accordingly for placing orders as well as while making payments.

3.9 Evaluation Criteria

On the due date the Techno commercial bids will be opened and referred to the technical evaluation Committee. The technical evaluation will be based on tender documents, work experience, interaction with bidder for technical and quality aspects, actual work performance, etc.

The information received and the bids already submitted together will be examined with reference to the tendered specifications and evaluation is made by the Committee.

After the technical evaluation is completed and approved, Purchaser shall inform the bidders whose bids have been rejected technically with the reasons for rejection.

The price bids of the Bidders whose techno commercial bids are found to be technically deficient or do not meet the qualification criteria as specified in this tender will be returned to them without opening.

The successful bidders will be informed regarding the date and time of Price bid opening.

Appropriate loading will be done for deviation in payment terms etc.

3.10 Duration for Completion of work/Delivery Period

Bidders are requested to specify the **delivery period** in the unpriced bid to be submitted with their technical bid. The bidder is expected to complete the entire work within 2 months from the date of receipt of work order, unless otherwise extended by NCRA.

3.11 Liquidated Damages

(a) As time is the essence of the contract, Delivery period mentioned in the Order should be strictly adhered to.

(b) If the supplier fails to **Supply** the equipment as per specifications mentioned in the order within the due date, he shall be liable to pay liquidated damages of **0.5 % per week** of value of delayed supply and works for each or part of month, subject to a maximum of **5%** of order value on the unfinished work & items not supplied beyond the due date specified for completion of contract. Such money will be deducted from any amount due or which may become due to the supplier.

3.12 Inspection & Acceptance

The acceptance test will be conducted by purchaser, after the equipment's are received at purchaser's site. The acceptance will involve trouble free operation.

3.13 Test Certificate

Manufacturers Test Certificates in English are to be furnished by the supplier

3.14 Warranty : ***Item supplied must have on site comprehensive Warranty of at least 3 Years.***

- a. To maintain certain manufacturer's warranties, said equipment must be installed, aligned and serviced by those installers authorized by said manufacturer to perform those duties. If the contractor is not authorized by said manufacturer, it is his sole responsibility to make the appropriate arrangements and bear all cost and consequences thereof.
- b. The Bidder shall include a statement of warranty on the entire system and on the individual pieces of equipment. The system warranty shall be for a minimum of 36 months from the date of system acceptance by the Client.
- c. This warranty shall obligate the Contractor to provide all equipment, software upgrade, material, and labor at no charge to the Owner, during the warranty period, in the event of a system or equipment malfunction.
- d. The system warranty shall include a preventive maintenance visits per year, to perform operation checks of the equipment, to upgrade system, to clean screen, projector lenses and other critical surfaces, to lubricate moving parts as recommended by the respective manufacturers and to adjust and align projector to maintain optimum registration and focus.
- e. All manufacturers' equipment warranties shall be activated in the Client's name and shall commence on the date of system acceptance. In the case of Contractor-modified equipment, the manufacturer's warranty is normally become void. In such cases, the Contractor shall provide the Owner with a warranty equivalent to that of the original manufacturer.
- f. The Supplier warrants that all the Goods are new, unused, and of the most recent or current models, and that they incorporate all recent improvements in design and materials, unless provided otherwise in the Contract
- g. The Supplier further warrants that the Goods shall be free from defects arising from any act or omission of the Supplier or arising from design, materials, and workmanship, under normal use in the conditions prevailing in India.
- h. The defects, if any, during the warranty period are to be rectified free of charge by arranging free replacement wherever necessary.
- i. Supplier will have to provide standby item / substitute of similar specifications at no extra cost, if the defective items will have to be sent back to manufacturer for

- repairing / replacement. If supplier is not able to provide the standby/substitute equipment, he will have to furnish bank guarantee for the landed cost of the item.
- j. Purchaser shall give notice to the Supplier stating the nature of any such defects together with all available evidence thereof, promptly following the discovery thereof. Purchaser shall provide all reasonable opportunity for the Supplier to inspect such defects.
 - k. Upon receipt of such notice, the Supplier shall, within a reasonable period of time, expeditiously repair or replace the defective Goods or parts thereof, at no cost to purchaser. Cost, insurance, freight, custom duty, excise duty, other charges if any should be borne by supplier.
 - l. If having been notified, the Supplier fails to rectify the defect within **reasonable period of time**, purchaser may proceed to take within a reasonable period such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which purchaser may have against the Supplier under the Contract.
 - m. Goods requiring warranty replacements must be replaced on free of cost basis.

3.12.1 Telephone Support

The Contractor shall respond via telephone within two (2) hours to any request for service. This first contact should outline the nature of the problem or functional anomaly. The Contractor shall make available an individual knowledgeable with the installed system, and who can address specific system issues described by the system operators

3.15 **Payment Terms**

For supply in **Rupee**.

70% will be made after receipt of items at site

20% after satisfactory installation, commissioning, testing and demo of the item and balance

10% payment on receipt of Bank Guarantee valid 38 Months from date of acceptance.

3.16 **Billing address :**

National Centre for Radio Astrophysics – Tata Institute of Fundamental Research
(NCRA- TIFR), Pune University Campus, Ganeshkhind, Pune 411007.

3.17 **Shipment should not be addressed to any Individuals name.**

3.18 **Ship to / Final Destination :**

**M.P. Building
Giant Metrewave Radio Telescope (GMRT) Office,
Tata Institute of Fundamental Research (TIFR),
At. Post. Khodad, Tal. Junnar,
Dist. Pune 410504
Tel : 02132258300/400/339**

3.19 **Removal of Rejected Items :**

Any item submitted for inspection and rejected by the purchaser must be removed by the supplier, within fourteen days from the date of receipt of intimation of rejection.

Such rejected items shall lie at the supplier's risk from the time of such rejection and

if not removed within the aforementioned time, the Purchaser shall have the right to dispose off the same at the supplier's risks and on cost and to appropriate such portion of the proceeds as may be necessary to cover any loss or expenses incurred by the purchaser in connection with the said sale.

3.20 Recovery of Sums Due :

Whenever any claim for the payment of, whether liquidated damage or not, arises out of or under this Contract against the supplier, the Purchaser shall be entitled to recover such sum by appropriating, in part or whole the Security deposit furnished by the supplier. In the event of the Security Deposit being insufficient, then the balance or the total sum recoverable, as the case may be, shall be deduced from any sum then due or which at any time thereafter may become due to the supplier under this or any other contract with purchaser. Should this sum be not sufficient to cover the full amount recoverable the Contractor shall pay to the Purchaser on demand the remaining balance due. Similarly, if the Purchaser has or makes any claim, whether liquidated damages or not against the supplier under any other Contract with the Purchaser, the payment of all amount payable under the Contract by the Contractor including the security deposit shall be withheld till such claims of the Purchaser are finally adjudicated upon and paid by the supplier.

3.21 Formation of Technical and Evaluation Committee

The Technical Evaluation Committee will be constituted by Centre Director. He may nominate some external/expert members, if required.

3.22 Terms of the Technical Evaluation Committee

A committee will go through the technical aspects of the tender and short list such firms whose bids are technically and commercially acceptable.

The technical evaluation will be an assessment of the Techno commercial Bid. Committee will proceed through a detailed evaluation of the Techno commercial Bids in order to determine whether they are substantially responsive to the requirements set forth in the tender. In order to reach such a determination, committee will examine the information supplied by the Bidders, and shall evaluate the same as per the specifications mentioned in this tender.

The technical committee may formulate evaluation criteria in addition to the specifications and requirements indicated in the tender, in the interest of Purchaser and this criteria/recommendation will also form as a part for short-listing of the firms whose technical bids are acceptable.

The Technical Committee will examine all the Technical aspects of the bids received. Further, the Technical Committee may seek additional information from the existing users at NCRA or from other Labs/Organizations and also call for Technical presentations from the bidders if required.

The recommendation/decisions of the Technical Evaluation Committee is final and binding on all the bidders.

3.23 Past Performance :

In case the past performance of the tenderer is not found to be satisfactory with regard to quality, delivery, warranty obligation and non-fulfillment of terms and conditions of the contract, their offer is liable to be rejected by the purchaser.

Successful Bidder will have to provide any other document required by our Consol agent as well as any document sought by Customs Authorities in India at the time of clearance of shipment.

3.24 Applicable Law and Jurisdiction of Court

This contract shall be governed by the Law of India being in force. Only the competent Courts of Law in Pune will have the jurisdiction in respect of any dispute, concerning this contract, over the arbitration proceedings etc.

CHAPTER - 4

TECHNICAL SPECIFICATIONS & CONDITIONS ALONG WITH TENDER DRAWING.

4.1 The specific spaces receiving audio visual outfitting includes:

- **GMRT MP Building Auditorium (220 Seats), Khodad, Tal-Junnar, Pune**

The scope of service for the AV System Integrator (AVSI) is to Supply, Install, Test & Commission the systems as per the list of AV equipment given in Scope of Supply and as per the tender drawings and as per Technical specifications included in this document. It is the responsibility of the AVSI to read the tender documents through completely and understand all of the requirements. Any doubts should be raised at the pre-bid meeting and any items not clarified at this stage will be at the risk of the vendor. Further, the AVSI must render training to designated persons deputed by NCRA-TIFR for regular operating of equipment and operating associated software, upkeep and fault finding etc.

For this project, NCRA-TIFR is looking to appoint a vendor with a high skill level in AV System Integration, and extremely high quality of work and excellent project management and coordination skills as this area under development is high profile and only the best of finishes and installation works will be accepted by the Centre.

The supplier shall have to depute their specialist to purchaser site at no extra cost during the Warranty period for (a) attending to faults, (b) providing on-job training to personnel in operation, trouble shooting and maintenance (c) attending to commissioning related issues and (d) programming of software etc. (e) providing after sales service . Refer to clause 4.2.2 in chapter regarding appointment of project co-ordinator.

The Bidder shall submit a scheduling plan with the bid return, indicating the various pertinent terminal dates after award of contract for completion of design, pre-installation work, on-site installation work, and testing and acceptance on a “per phase” basis.

The Bidder shall obtain from the General Contractor /purchaser, projected dates when the relevant areas will be available for the on-site installation

4.2.1 GENERAL & TECHNICAL CONDITIONS

- 4.2.1.1 The Contractor shall be responsible for delivering a turnkey system to the Clithe
- 4.2.1.2 The Contractor represents that he/she is familiar with, and has expertise in the Work of this nature and scope. The Contractor further agrees that he/she shall provide all Work as may be required to make a complete job of that which may not be fully defined in the Contract documents. The NIC and OFE equipment and materials are specifically exempted from this requirement.
- 4.2.1.3 The Contractor shall comply with all of the legal regulations, including **health and safety regulations**

- 4.2.1.4 Because drawings are, in general, diagrammatic, the Contractor shall coordinate all installations with the Owner and other contractors if required, based on the field conditions.
- 4.2.1.5 Prior to ordering equipment, the Contractor shall field verify all conditions, with respect to dimensions and placement of equipment. Any and all discrepancies from the contract documents shall be brought to the attention of the Owner, Project coordinator, Audio Visual consultant and Architect
- 4.2.1.6 The Audio-visual Contractor shall furnish software necessary to operate software controlled audio-visual sub-systems e.g. remote control system. This software shall, in every case, be provided by the manufacturer(s) of the sub-system, and shall be installed and tested prior to delivery of equipment at site.
- 4.2.1.7 The Contractor shall generate all shop drawings and information for the complete installation and wiring of the system. The Contractor shall provide the on-site installation and wiring, and shall provide on-going supervision and coordination during the implementation phase.
- 4.2.1.11 The Contractor shall be responsible for the initial adjustment of the systems as herein prescribed and shall provide all test equipment for the system checkout and conduct all the acceptance tests. Contractor shall provide on-the job training in the operation and maintenance of the systems for personnel designated by the Owner.
- 4.2.1.12 The Contractor shall be responsible to provide and maintain his/her own storage facility. If this storage facility is required to be on-site it shall be the Contractor's responsibility to coordinate the size and spatial requirements with the Owner and/or their representatives. The Contractor shall assume full responsibility for both their storage facility and all contents therein, unless otherwise indicated by the Owner.
- 4.2.1.13 The Contractor shall utilize good housekeeping practice with respect to his/her Work including clean-up of all dirt and debris created by the Contractor during his installation operations on a daily basis.
- 4.2.1.14 The Contractor shall provide protection necessary to safeguard his/her own Work from damage by his/her own operations and others. Unless the Contractor proves to the Owner's satisfaction that their Work has been damaged by others, the Contractor shall, at his/her own cost and expense, promptly repair, adjust and clean all defective installations as shown on the punch list prepared by the Owner.
- 4.2.1.15 All of the Contractor's Work shall be tested and inspected by Consultant, NCRA authorities and any other legal authority having jurisdiction and in accordance with all Specifications. The Contractor shall coordinate and cooperate fully and shall provide at no additional cost to the Owner, manpower, blueprints, facilities, scaffolds, etc. to reasonably assist the inspectors.

- 4.2.1.16 The Contractor shall examine the site and the Contract Documents and review with the Owner the designated areas of access, delivery, and storage for the Contractor's use. The Contractor agrees that such areas are satisfactory and sufficient for his/her needs in the prosecution of his Work in conformance with the terms of this Contract.
- 4.2.1.17 The Contractor shall at his own expense collect and dispose of packing and debris in at the end of each working shift.
- 4.2.1.19 The Owner reserves the right to furnish/change any materials necessary for the Project.

4.2.2 PROJECT CO-ORDINATOR

- 4.2.2.1 After the award of contract, the Contractor shall provide to the Owner, as a part of the prefabrication submittal, the name of the Project co-ordinator that will provide all duties and responsibilities as specified herein, during the term of the project.
- 4.2.2.3 The Project co-ordinator shall maintain the ability of making all managerial decisions on behalf of the Contractor on a day-to-day basis.
- 4.2.2.5 Upon notification by the Owner, of any project related installation issue, or issue that may contradict the system specifications as stated herein, the Project co-ordinator shall respond to such issue, verbally and/or in writing within an eight (8) hour period.
- 4.2.2.6 Responses to such issues as stated above shall include a clear understanding of the issue, along with a tentative plan of action, reflecting milestones and/or deadlines to resolve the issue.

4.2.4 NOT IN CONTRACT

- 4.2.4.1 Certain equipment and materials will be provided and installed by others. Unless otherwise indicated in these specifications, or on the related drawings, these will include the following:
 - 4.2.4.1.1 Conduit, room, power receptacle outlets, and interconnecting power wiring for these circuits, except as specified or indicated herein.
 - 4.2.4.1.2 Electrical MCBs/distribution panels required to power the audio-visual and television equipment.
 - 4.2.4.1.3 Electrical boxes, junction boxes, pull boxes and conduit as defined in the electrical contract drawings and specifications.
 - 4.2.4.1.5 Acoustic wall panelling and false-ceiling
 - 4.2.4.1.6 Moveable furniture, desks, and chairs, except as specified herein

4.3 QUALITY OF MATERIALS AND EQUIPMENT

- 4.3.1 All materials and equipment supplied by the Contractor shall be new and shall meet the required specifications as per the tender in all respects.
- 4.3.3 All equipment shall be CE compliant and marked accordingly, or equivalent.
- 4.3.4 The Contractor, upon receiving notice from Owner that the Contractor has furnished inferior, improper or unsound Work or materials (including equipment) (whether worked or unworked), or Work or materials at variance with that which is specified, will, within twenty-four (24) hours, proceed to remove such Work or materials and make good all other Work or materials damaged thereby, and, at the option of the Owner, the Contractor shall immediately replace such Work or materials with Work or materials as specified. The removal, replacement and repair shall be performed at such times and with manpower sufficient, in the judgment of the Owner, so as not to avoid disturbance to occupants, or other on-going work.
- 4.3.6 The Owner shall have the authority at all times, until Final Completion and acceptance of the Work, to inspect and reject Work and materials which in its judgment are not in conformity with the Drawings and Specifications, and its decision in regard to character and value of Work shall be final and conclusive on both contracting parties. If the Owner permits said Work or materials to remain, the Owner shall be allowed the difference in value or shall at its election

have the right to have said Work or materials repaired or replaced, as well as the damage caused thereby, at the expense of the Contractor, at any time within one year after the completion of the entire project, or within such longer period as may be covered by any guaranty; and neither payments made to the Contractor, nor any other acts of the Owner, shall be construed as evidence of acceptance, waiver or estoppels.

- 4.3.7 Any expense incurred by the Owner in connection with the foregoing shall be borne by the Contractor, and the Owner may withhold money due to the Contractor or recover money already paid to the Contractor, to the extent of such expense.

4.5 CONTRACTOR'S DOCUMENTATION

- 4.5.1 Prior to fabrication, the Contractor shall submit to the Client, for approval, any custom designs pertaining to the systems. Drawing submittals shall be on reproducible media or by email. These designs include, but are not limited to, the following:
- 4.5.1.1 Complete system construction and point to point wiring schematic drawings, including all component values, and showing complete letter and number identification of all wire and cable as well as jacks, terminals and connectors. All connections are to be shown; a detail sheet with "typical" connection diagrams is not acceptable.
 - 4.5.1.3 All control system and digital audio pages, both touch panels based and control computer based.
 - 4.5.1.4 All control system and digital audio systems front panel layouts, where applicable.
 - 4.5.1.5 All panels, plates, and designation strips, including details relating terminology, engraving finish and colour.
 - 4.5.1.6 All custom designed consoles, tables, carts, support bases, and shelves.
 - 4.5.1.7 Schematic drawings of all custom components, assemblies and circuitry, including wall and/or floor plates.
 - 4.5.1.8 All unusual equipment modifications.
 - 4.5.1.9 Run sheets or field wiring details.
 - 4.5.1.10 Patch panel assignment layout drawings.
 - 4.5.1.11 Front mechanical drawings of each equipment rack.
 - 4.5.1.12 All items of equipment, whether a stock manufactured item or custom-built item, shall be supported by complete and detailed schematic drawings and

replacement parts lists. No “black boxes” or unidentified components shall be acceptable under this specification.

4.5.1.13 Verification of the focal lengths of projection lenses to achieve the specified image sizes.

4.5.2 At the completion of the installation, the Contractor shall provide two (2) copies each of the following:

4.5.2.1 Test results, in “spread sheet” format, of electrical audio and/or video performance testing for all systems end-to-end in entire auditorium. These test results must include a gain structure chart showing measured levels at each and every gain point through the system. This will be submitted as the reference setup for the system.

NOTE:

Until these test results are provided, no other testing (functional or otherwise) will be performed. If any anomalies in system performance are detected, the Contractor shall correct these before performing any other tests.

4.5.2.2 Equipment manufacturer’s operation manuals for each piece of equipment.

4.5.2.3 “As-built” or “As-installed” drawings for every system. A final, approved copy shall be placed in a metal pocket mounted on the inside of the rear door of the rack and also to be produced in electronic form.

4.5.2.4 System functional block drawing identical to the Consultants specification drawing with the addition of all input and output circuit cable and terminal block numbers as well as all jack field circuit I.D. designations. A copy of this drawing shall be framed in protective plastic and mounted near the equipment racks.

4.5.2.5 A System Operation and Maintenance Manual shall be produced by the Contractor especially for the systems detailed herein. The “Operation” section shall describe all typical procedures necessary to activate each system to provide for the functional requirements as listed under the Detailed Specifications.

4.5.2.6 The reader of this manual shall be assumed to be technically competent, but unfamiliar with this particular facility.

4.5.2.7 Additionally, the Contractor shall provide a single page of basic operating instructions for each Conference Room, and other audio visually equipped spaces.

4.5.2.8 The “Maintenance” section shall provide a recommended maintenance schedule with reference to the applicable pages in the manufacturer’s maintenance manuals. Where inadequate information is provided by the manufacturer, the Contractor shall provide the information necessary for proper maintenance.

4.5.3 Software Documentation and Obligations

- 4.5.3.1 Title to, and exclusive ownership of, any software commissioned under this contract shall at all times remain with the Owner. All source code becomes the exclusive property of the Owner.
- 4.5.3.2 At the time of submitting the System to the Acceptance Tests, the Contractor will furnish media which will contain:
- All source code pertaining to the System, where there is custom code.
 - Instructions and full description of equipment required which will enable the Owner to create executable programs from source code.
 - All executable programs.
 - Instructions and full description of equipment required which will enable the Owner to prepare operating systems and other third party Software as licensed hereunder for use.
 - All production files for Web pages
 - Graphic files for all interface screens, if any
 - For any Software as purchased hereunder not developed by the Contractor all information, data, codes and documentation distributed to the Contractor and otherwise available to the Contractor.

4.6. Acceptance Tests

- 4.6.1 An acceptance test will be performed for a ten (10) working-days period, during which this changed or additional code must perform accurately and error free. During this acceptance test, if the Owner discovers an error in the coding or the logic of the software as supplied under the terms of this Agreement to the Owner, which prevents the system from performing in accordance with shall notify the Contractor of the error and upon request the Contractor will deliver to the Owner its analysis thereof accompanied by complete program, module, data listings and sample runs exhibiting and rectifying the error.
- 4.6.2 The Owner shall assist the Contractor in its performance under the terms of this Specification by allowing the Contractor to use the Owner's System, data listings and sample runs to reproduce and/or correct the reported error and to install and check updated versions of the delivered Software licensed hereunder. The Contractor represents and warrants that it is the owner or Licensee of the supplied Software as licensed hereunder and has the right to permit the Owner to use the same. The Owner shall not be liable for any incidental or consequential damages, whether foreseeable or not, even if the Owner has been advised of the possibility of such damages, resulting from or in any way connected with the use of the supplied Software as licensed hereunder.
- 4.6.3 Subsequent to system acceptance, source code changes and/or additional programming, whether requested by the client or performed by the vendor, will be warranted by the vendor for a period of three (3) years, with the vendor responsible for the diagnosis and repair.

4.8 COOPERATION WITH OTHER CONTRACTORS

- 4.8.1 It shall be the responsibility of the Contractor to cooperate at all times, and to the fullest extent, with all contractors doing work in the building, to the end that lost time, work stoppages, interference, and inefficiencies do not occur.
- 4.8.2 *It shall be the responsibility of the AV Contractor to liaise with all other contractors to ensure that all containment required by the AV systems, all network, power and grounding systems are provided by other contractors as required. The AV contractor shall provide drawings and communicate these requirements within 1 week of signoff on the contract.*
- 4.8.3 It shall also be the responsibility of the Contractor to participate in the preparation of coordination drawings and attend coordination meetings, before and during construction, at the request of the Architect/AV consultant/NCRA representative.

4.9 EQUIPMENT DELIVERY AND STORAGE

- 4.9.1 The contractor shall inform the Owner seven (7) days in advance to delivery to the site. It shall be the responsibility of the Contractor to make appropriate arrangements, and to coordinate with authorized personnel at the site, for the acceptance, handling, protection, and storage of equipment so delivered. Inspection will be carried out by the Owner to check if all the equipment are new.

4.10 CLEAN-UP AND REPAIR

Upon completion of the work the Contractor shall remove all his refuse and rubbish from and about the premises, and shall leave the relevant areas and equipment clean and in an operational state. The Contractor shall be responsible for repairing any damage caused to the premises by the Contractor's installation activities, at no cost to the Owner.

4.11 OWNER TRAINING

- 4.11.1 The Contractor shall provide on-the-job training by a suitably qualified instructor, to all the persons designated by the Owner, to instruct them in the operation and maintenance of the systems. In the event the Contractor does not have qualified instructors on staff for certain sophisticated equipment, a manufacturer's representative for such instruction will be provided by the contractor at no additional cost to the Owner. **All training shall take place after the systems are operational, but before the acceptance tests**

4.12 PUBLICATION

- 4.12.1 No information relative to this job may be released for publication without prior written approval from the Owner.

4.14

GENERAL

- 4.14.1 Installation shall include the delivery to the installation site, unloading, setting in place, fastening to walls, floors, ceilings, stage, or other structures where required, interconnecting wiring of the system components, equipment alignment and adjustment, and all other work whether or not expressly required herein which is necessary to result incomplete and fully operational systems.
- 4.14.2 Prior to ordering equipment, the contractor shall coordinate the frequencies of all wireless devices to prevent unwanted interaction between devices and rooms. This includes, but is not limited to, wireless microphones, assisted listening system devices, wireless control panels, etc.
- 4.14.3 All accessories, including rack mounting hardware, power supplies, etc., shall be obtained from the original equipment manufacturer. Unless otherwise noted or specified, third party accessories shall not be used. All unbalanced sources shall be converted into balanced signals.
- 4.14.4 All installation practices shall be in accordance with, but not limited to, these specifications and drawings. Installation shall be performed in accordance with the applicable standards, requirements, and as recommended by the OEMs of the respective equipment.
- 4.14.5 If, in the opinion of the Contractor, an installation practice is desired or required, which is contrary to these specifications or drawings, a written request for modification shall be made to the Consultant. Modifications shall not commence without written approval from the Consultant. During the installation, and up to the date of final acceptance, the Contractor shall be under obligation to protect his finished and unfinished work against damage and loss. In the event of such damage or loss, he shall replace or repair such work at no cost to the Owner.

4.15 PHYSICAL INSTALLATION

- 4.15.2.1 All equipment shall be firmly secured in place unless requirements of portability dictate otherwise.
- 4.15.2.2 Cables shall be secured using Velcro grips and not Plastic Cable ties.
- 4.15.2.3 All equipment shall have an engraved plaque permanently affixed, denoting its function.
- 4.15.2.4 Fastenings and supports shall be adequate to support their loads with a safety factor of at least three. All boxes, equipment, etc., shall be secured plumb and square.
- 4.15.2.5 In the installation of equipment and cable, consideration shall be given not only to operational efficiency, but also to overall aesthetic factors.

4.15.2.6 Trim and Escutcheon Components

4.15.2.7 To insure a proper finished appearance, the AV Contractor shall furnish and install trim/escutcheon components at all conditions where A/V components pass through the finished ceilings. This would include but not be limited to video projector supports, television monitor/receiver supports and any other component which is not specifically supplied with integral flanges/trim components; i.e. speaker mounts, assistive listening devices, etc. The visible component of any trim should be to a minimum in size, preferably no wider than 1/2". All trim components at the ceiling plane shall be finished to match the approved ACT ceiling grid system components. The audio-visual contractor should obtain a sample from the General Contractor, including any custom colour information, or standard colour numbers. All trim components shall be submitted to the Architect for review and approval prior to fabrication.

4.16.3 CABLE INSTALLATION

4.16.3.1 All wire bundles are to be neat and combed free of cable crossovers.

4.16.3.2 All cables, regardless of length, shall be marked with a permanent, self-laminating wrap-around number or letter cable marker at both ends, similar to the Panduit "Pan-Code" system. Labels must be computer-generated for legibility. Wire labels done by hand in the field must be replaced with computer generated labels. There shall be no unmarked cables at any place in the system. Marking codes used on cables shall correspond to codes shown on drawings and or run sheets.

4.16.3.3 All cables shall be grouped according to the signals being carried. In order to reduce signal contamination, separate groups shall be formed for the following cable families:

- Power cables
- Control cables
- Video cables
- Audio cables
- As a general practice, all power cables and control cables shall be run on the left side of an equipment rack as viewed from the rear. All other cables shall be run on the right side of an equipment rack, as viewed from the rear. Velcro ties shall be placed at appropriate intervals of no greater than six inches for vertical bundles, two inches for horizontal bundles.

4.16.3.4 All vertical cable bundles shall be attached to the rack frame. All cables shall be continuous lengths without splices. All system wire, after being cut and stripped, shall have the wire strands twisted back to their original lay and be terminated by approved soldered or mechanical means. Except where noted otherwise in the specifications, NO BARE WIRE TERMINATIONS WILL BE ACCEPTED. Heat-shrink tubing shall be used to insulate the ground or drain wire. Unused wires at the end of a cable shall remain un-stripped and shall be laid back and held in place with wire ties.

- 4.16.3.5 All solder connections shall be made with rosin-core solder using temperature-controlled solder stations. Care shall be taken to avoid cold or cracked solder joints. Any connections which do not appear to be clean and shiny, or which show signs of cracking, shall be re-soldered by the contractor before final acceptance of the system.
- 4.16.3.6 Mechanical connections using insulated, crimp-type connectors shall be bonded to the connector by soldering the wire to the metal part of the connector.
- 4.16.3.7 Connections made with screw actuated pressure type terminal strips shall be made by stripping approximately 1/4 inch of insulation from the stranded conductor. Then the un-tinned wire shall be inserted into the terminal and the screw tightened using a secure fitting precision screwdriver.
- 4.16.3.8 Terminal blocks, boards, strips or connectors shall be furnished for all cables which interface with racks, cabinets, consoles, or equipment modules. No audio cables shall run directly to the audio patch panel jacks. Each audio patch panel shall be furnished with an audio terminal block and all audio cables to and from the audio patch panel shall terminate on this block.
- 4.16.3.9 All wire markers shall face a common direction.
- 4.16.3.10 All cables shall have proper connector housing.
- 4.16.3.11 Cables shall not protrude from the back of racks.
- 4.16.3.12 All cable entry shall be through the tops of racks or through entrance holes in the base of the rack. No cable shall enter racks through front, rear or side panel openings.
- 4.16.3.13 Unless otherwise noted, all video and computer video cables are to be terminated using Seventy five ohm (75Ω) connectors, with a captive centre pin.
- 4.16.3.14 Cables running in plenum areas without conduit shall be plenum rated cable, and match the specified cable above. It is the responsibility of the Bidder to inspect the electrical drawings, and verify in what spaces plenum cable shall be used.
- Note:**
No claims for additional monies, based on the use of plenum cable, will be allowed.
- 4.16.3.15 All cables (except video and pulse cables, which must be cut to an electrical length) shall be cut to the length dictated by the run. No splices shall be permitted in any pull boxes without prior permission of the Consultant. For equipment mounted in drawers or on slides, the interconnecting cables shall be provided with a service loop of appropriate length.
- 4.16.3.16 No cable shall be installed with a bend radius less than that recommended by the cable manufacturer.

- 4.16.3.17 Where cables are installed in architectural niches, ensure that the cables are black, unless otherwise directed, to reduce visibility from the audience.

4.17.5 CONNECTION PLATE RECEPTACLES

- 4.17.5.1 Audio (microphone or line level) – XLR type.

Audio (loudspeaker level) – Neutrik “Speak-On” Type.

Intercom – ¼ inch diameter tip/ring/sleeve type, or as required by the intercom system. Jack shall be insulated from panel type.

Video – BNC type.

VGA – DE-15HD jack, isolated from panel type, with hex nuts.

RF – “F” type. Receptacles shall be insulated from panel type.

Note:

All connectors on wall plates, or in other exposed locations, are to be recessed.

4.18.6 PATCH PANEL ASSIGNMENTS

- 4.18.6.1 All patch panels shall be wired so that signal “sources” (outputs from) appear on the upper row of a row pair; and all “loads” (inputs to) appear on the lower row of a row pair.

4.19.7 PATCH PANEL DESIGNATION STRIPS

- 4.19.7.1 All audio and video patch panel designation strips shall utilize alphanumeric identifications and descriptive information. The jack position in each horizontal row shall be numbered sequentially from left to right. The horizontal jack rows shall be lettered sequentially from top to bottom. The alphanumeric identification of each jack shall be included on the functional block drawings, as well as on reproductions of these drawings, which shall be mounted in an appropriate location near the patch bays.

4.20 GROUNDING PROCEDURES

In order to minimize problems resulting from improper grounding, and to achieve maximum signal-to-noise ratios, the following grounding procedures shall be adhered to:

- 4.20.1 SYSTEM GROUND

- 4.20.1.1 A single primary “system ground” shall be established for the systems in each particular area. All grounding conductors in that area shall connect to this primary system ground.
- 4.20.1.2 The system ground shall be provided in the audio equipment rack for the area, and shall consist of a copper bar of sufficient size to accommodate all secondary ground conductors. A copper conductor having a maximum of 0.1 Ohms total resistance shall connect the primary system ground bar to the nearest approved electrical ground. The Contractor shall be responsible for determining if the metallic conduit is properly electrically bonded to the building ground system.
- 4.20.1.3 Secondary system grounding conductors shall be provided from all racks, audio consoles, and grounding point for the area. Each of these grounding conductors shall have a maximum of 0.1 Ohms total resistance.

Under no conditions shall the AC neutral conductor, either in the power panel or in a receptacle outlet, be used for a system ground. Under no conditions shall the technical ground be connected to non-technical ground conductors.

4.20.2 AUDIO CABLE SHIELDS

- 4.20.2.1 All audio cable shields shall be grounded at one point only. There are no exceptions. For inter and intra-rack wiring, this requires that the shield be connected at one end only. For ungrounded portable equipment, such as microphones, the shield shall be connected at both ends but grounded at only one end.
- 4.20.2.2 The Contractor shall submit for approval a detail showing standard wiring procedures indicating the following:
- Audio connection methodology for balanced to balanced line level interfaces
 - Audio connection methodology for balanced to unbalanced line level interfaces
 - Audio connection methodology for unbalanced to balanced line level interfaces.

4.20.3 VIDEO RECEPTACLES

- 4.20.3.1 All video receptacles that are provided and installed by the Contractor shall be insulated from the mounting panel, outlet box, or wire way. Unless otherwise detailed herein, this shall be accomplished by using insulated-from-panel type receptacles.

4.20.4 AUDIO RECEPTACLES

- 4.20.4.1 All audio receptacles that are provided and installed by the Contractor shall be insulated from the mounting panel, outlet box, or wire way. Unless otherwise detailed herein, this shall be accomplished by using insulated-from-panel type receptacles.

4.20.5

GENERAL

4.20.5.1

Because of the great number of possible variations in grounding systems, it shall be the responsibility of the Contractor to follow good engineering practice, as outlined above, and to deviate from these practices only when necessary to minimize crosstalk and to maximize signal-to-noise ratios in the audio, video, and control systems.

4.21 PERFORMANCE STANDARDS

The manufacturer specifications shall be considered as minimum performance levels of acceptance. Unless restricted by the published specifications of a particular piece of equipment, or unless otherwise required under the Detailed Specifications, the following performance standards shall be met by each system:

4.21.1. Audio

1. At the maximum distance as designated by the Consultant/NCRA representative this system shall be capable of supplying 80 dB-SPL program level plus 10 dB peaking factor over a bandwidth of 250 Hz to 4 kHz without deformation of the waveform as observed on an oscilloscope connected to the output of a SLM in every zone unless noted otherwise.
2. Distribution of sound in the listening area from 250 Hz to 4 kHz shall vary not more than ± 2.0 dB at any location, as measured in octaves with an ANSI SLM.
3. The system shall provide adequate dynamic range at an acoustic distortion level sufficiently low to ensure minimum listening fatigue and intelligibility acceptable to the Owner. The intelligibility is based on listeners not familiar with the message, or talker; no visual cues; normal activity; and moving position both within and between zones.
4. Unless restricted by the published specifications of a particular piece of equipment or unless otherwise required under the Detailed Specifications, the following performance standards shall be met by each system:
 - a. S/N (including cross talk and hum) 60 dB minimum.
 - b. Total Harmonic Distortion 1% maximum from 30 Hz to 16,000 Hz.
 - c. Frequency Response Within plus or minus 1.0 dB, 30 Hz to 16,000 Hz.

4.21.2. VIDEO

- a) S/N un-weighted DC to 5 MHz 55 dB minimum.
- b) Frequency Response Within plus or minus 0.5 dB, DC to 5 MHz.
- c) Line and Field-Tilt 2% maximum.
- d) Differential Gain 3% maximum.
- e) Differential Phase 2 degrees maximum

4.21.3 PERFORMANCE TEST SIGNAL PATHS

The signal paths for the above Performance Standards shall be as follows:

Audio:

From all source inputs (for microphones, CD player etc.) through all mixers, switchers, etc., to all signal destinations.

Video Signals:

From all sources of the above signal paths. This shall not exempt the Contractor from the responsibility of checking all paths and outlets for appropriate compliance with the Performance Standards, see section below for detailed requirements.

4.22 OPTICAL

4.22.2 All optical projection systems shall meet the following performance standards:

4.22.3 The total averaged light output from a projector, in lumens, shall be within plus-or-minus 15% of that specified by the projector manufacturer. The light fall-off from the centre of the projected image to all four corners, as measured at the projected image plane, shall not exceed 35%. The light intensity shall be measured at all five positions of the projected image after the projector has been adjusted to provide the light output as specified above.

4.22.4 The “corner” location shall be defined as the four points determined by intersecting lines drawn 5% of the distance in from the focused edges of the image.

The light meter used for the above measurements shall be a properly calibrated foot-candle (or lux) meter and shall be cosine-corrected. Projectors, lenses, and mirrors shall be solidly mounted and braced, so that there will be no observable movement in the image induced by motor vibration or other mechanical operations.

4.23 CONTROL SYSTEM USER INTERFACE

4.23.1 Control system user interfaces pages shall be designed for this project exclusively. While there are a great number of design approaches to designing the user interface, the following guidelines shall be adhered to:
All panels are to have the time and date as icons, in the same position on every page.

4.23.2 All panels are to have a title, indicating the piece of equipment and/or functionality being controlled.

4.23.3 No individual component shall be programmed to function atypically.

4.24.4 Devices similar in nature shall be programmed to operate with a common format.

- 4.24.5 Final programming shall include capability to remotely control all functions of the Audio-visual system. Individual device controls shall provide full manufacturer's functionality.
- 4.24.6 Provide control capability for every function available on every piece of equipment being controlled by the system. Define and provide "macro" commands for the most used functions.
- 4.24.7 Provide control panel layouts that are consistent from page to page.
- 4.24.8 Functions used during a general presentation shall be accessible with a minimal amount of button presses/page flips.
- 4.24.9 Where feasible, multi-level access to controls should be implemented.
- 4.24.10 During performance testing, all equipment shall be operated under standard conditions as recommended by the manufacturer.
- 4.24.11 Adjust, balance, and align all equipment for optimum quality and to meet the manufacturer's published specifications. Establish and mark normal settings for all level controls, and record these settings in the "System Operation and Maintenance Manual".
- 4.24.12 Check all optical projection images for average light level, light fall-off, and image alignment and size to comply with the Performance Standards and specifications drawings. Check to determine that all projectors, projector bases, carts, tables, and mirrors are rigid and vibration-less in operation.
- 4.24.13 Maintain documentation of all performance tests for reference by the Consultant during the System Acceptance Tests.

4.25 SYSTEM ACCEPTANCE TESTS

- 4.25.1 System Acceptance Tests will not be performed until the Contractor's System Checkout has been completed and the test results have been reviewed. The System Acceptance Tests will be supervised by the Consultant and will consist of the following:
- 4.25.2 A physical inventory will be taken of all equipment on site and will be compared to Equipment Schedule in the contract documents.
- 4.25.3 The operation of all system equipment shall be demonstrated by the Contractor.
- 4.25.4 Both subjective and objective tests will be required by the Consultant to determine compliance with the specifications. The Contractor shall be responsible for providing test equipment for these tests.
- 4.25.5 All final, "As-Built" or "As-installed" drawings, run sheets, manuals, and other required documents, as detailed in 4.5, shall be on hand. Two complete sets of these documents shall be delivered to the Owner at this time. (One complete set

shall have been delivered to the NCRA representative/Consultant prior to the scheduling of Acceptance Tests).

- 4.25.6 In the event further adjustment is required, or defective equipment must be repaired or replaced, tests may be suspended or continued at the option of the Consultant/NCRA representative.

4.26 Scope of supply (list of AV equipment)

The scope of service for the AV System Integrator (AVSI) is to Supply, Install, Test & satisfactorily Commission the systems as per the list of AV equipment given in this Scope of Supply and as per the tender drawings and as per Technical specifications included in this tender document.

Note : Bidders to ascertain requirement of extra accessories such as Velcro grips or panduit cable-markers, patch panels, heat-shrink sleeves etc. (as mentioned in the chapter 4) from the tender-drawing and from the BoQ

S. No.	Description	Approved Makes	Qty
A	Sound Reinforcement System		
1	Supply, Installation, testing & commissioning of Active Steerable Column Speaker with Frequency Response (+/-3dB) : 200Hz to 17kHz or better; Frequency Bandwidth (-10 dB) : 58Hz to 18kHz or better; Nominal Dispersion (H X V) : 130 degree (H) X 30 Degree (V) or better; Long Term Power Handling : 250Watt or better; Max SPL @ 1 Mtr (Cont.) : 112 dB or better; Transducers : Min 12 driver of 2.25" or better; Net Weight : Min 12Kg to 15Kg. complete with standard accessories as per the tender specification. (Bidder can quote passive column speaker with Amplifier)	RCF/QSC/Bose	2
2	Supply, Installation, testing & commissioning of subwoofer with Frequency Response (+/- 3dB) : 45 Hz to 180 Hz or better; Nominal Dispersion : Omnidirectional; Long Term Power Handling : 500 Watt or better; Impedance : 4/8 Ohms or better; Sensitivity (SPL / W @ 1 Mtr) : 90 dB or better; Max SPL @ 1 Mtr (Cont.) : 117 dB or better; Transducers : min 2 X 10" or 1 x 18" or better; Net Weight : Min 18Kg to 43Kg. complete with standard accessories as per the tender specification.	RCF/QSC/Bose	2

3	Supply, Installation, testing & commissioning of Active/Passive Stage Monitor with Frequency Response (+ / -3dB) : 70 Hz - 16 kHz or better; Nominal Dispersion : 75 H X 60 V or better; Long Term Power Handling : 100 Watt or better; Impedance : 8 ohm; Sensitivity (SPL / W @ 1 Mtr) : 91dB SPL or better; Max SPL @ 1 Mtr (Cont.) : 111dB or Better; Transducers : LF: 1 x 5" or better, HF: 1" or better; Net Weight : Min 6Kg to 18Kg. complete with standard accessories as per the tender specification.	RCF/QSC/Bose	2
4	Supply, Installation, testing & commissioning of 8/4 channel Class D power Amplifier with Cont. Power Per Channel (impedance) : 500W @ 4Ohm or better, 250W @ 8Ohm or better; should provide 400Watt or better power at 70/100V (either Per Channel or Bridge Mode); Voltage Gain : 32dB or better; THD : <0.4% or better; Damping factor : >1000 or better; complete with standard accessories and as per the tender specification.	PowerSoft/QSC/Bose/RCF	1
5	Supply, Installation, testing & commissioning of Digital Signal Procesor having Number of channels : Inputs : 2 or better, Outputs : 4 or better; A/D and D/A Convertor : 24-bit or better; Sampling Rate : 48kHz or better; THD + N : 0.05% or better; Dyanmic Range : 105 db or better; Routers, Equalizers, Band Pass Filter, Delay, Limiter, Gain, etc. complete with standard accessories and as per the tender specification.	Bose/Biamp/Symetrix	1
6	Supply, Installation, testing & commissioning of 24 channel Mixing Console having input configuration : 14 mic or better, 2 stereo or better; 3 or better EQ's; 3 or better AUX; Fader; Effects; Internal Power Supply; Built in compressors / Limiters complete with standard accessories and as per the tender specification.	Mackie/RCF/Allen & Heath	1
7	Supply, Installation, testing & commissioning of Dynamic Wireless handheld Microphone with Cardioid / Hypercardioid / Supercardioid Polar Pattern; RF Freq Range : 548 MHz to 820 MHz or better; Audio Bandwidth : 80 Hz to 15kHz or better; RF Power : 10mW or better; No. of compatible channels : 12 or better; THD : <0.9% or better; Operating Time : 8 hours or better; True Divesity Receiver; Signal to Noise Ratio : >103dB or better; complete with standard accessories and as per the tender specification.	Sennheiser/Shure/ Beyer dynamics	2

8	Supply, Installation, testing & commissioning of Condenser Wireless headset Microphone with Cardioid / Hypercardioid / Supercardioid Polar Pattern; RF Freq Range : 548 MHz to 865 MHz or better; Audio Bandwidth : 60 Hz to 13kHz or better; RF Power : 10mW or better; No. of compatible channels : 12 or better; THD : <0.9% or better; Operating Time : 8 hours or better; True Divesity Receiver; Signal to Noise Ratio : >103dB or better; with standard accessories and as per the tender specification.	Sennheiser/Shure/Beyerdynamics	2
9	Supply, Installation, testing & commissioning of 16" Gooseneck Microphone with table top on/off switch with Cardioid / Hypercardioid / Supercardioid Polar Pattern; RF Shielding; 65dB or better Signal to Noise Ratio; Max SPL : 107dB or better; LED Indication; Frequency response : 50 Hz to 17kHz or better; complete with standard accessories and as per the tender specification.	Sennheiser/Shure/Beyerdynamics	2
10	Supply, Installation, testing & commissioning of Dynamic Wired handheld Microphone with cardioid polar pattern; Frequency response : 50Hz to 15kHz or better; Sensitivity : 1.85mV or better; with standard accessories and as per the tender specification.	Sennheiser/Shure/Beyerdynamics	3
11	Supply, Installation, testing & commissioning of Dynamic Instrument Microphone with cardioid polar pattern; Frequency response : 50Hz to 15kHz or better; Sensitivity : 1.6mV or better; with standard accessories and as per the tender specification.	Sennheiser/Shure/Beyerdynamics	4
12	Supply, Installation, testing & commissioning of Professional CD cum MP3 Cum USB Player having IR remote control; Balanced XLR outputs, RCA Line output and Record output; rotary knob complete with standard accessories and as per the tender specification.	Tascam/Gemini	1
13	Supply, Installation, Testing & Commissioning of Four point Mic Junction box with 1 speakon connector complete with standard accessories and as per tender specifications.	Custom	2
14	Supply, Installation, Testing & Commissioning of Four point Mic Junction box complete with standard accessories and as per tender specifications.	Custom	2
15	Supply & Laying of 2 core 2.5 sqmm loudspeaker cable and as per the tender specifications with cable ties /markers.	Belden/Canare/Extron/Liberty cables/ CommScope or as recommended by OEM of Speakers/ Microphones/ Amplifier	100m

16	Supply & Laying of 2 core sheilded microphone cable and as per the tender specifications with cable ties/markers.	Belden/Canare/Extron/Liberty cables/ CommScope or as recommended by OEM of Speakers/ Microphones/ Amplifier	200m
17	Supply, Installation, Testing & Commissioning of Connector complete with standard accessories and as per tender specifications.	Neutrik/Amphenol	1
18	Supply, Installation, testing & commissioning of Equipment rack and as per the tender specification.	Custom 22U	1
B	Video Projection and Presentation System		
1	Supply, Installation, testing & commissioning of 3LCD/1 DLP or better Projector with brightness of 4000 Lumens or better; Resolution : 1920 x 1200 WUXGA Projector; Resolution is 10000 : 1 or better; 4000 Hours or better lamp life; Ports : 1 or better HDMI, 1 or better VGA, 1 or better Audio Input, 1 or better Audio Output, RS-232, complete with standard accessories and as per the tender specification.	Panasonic/Epson/Christie	2
2	Supply, Installation, testing & commissioning of Mounting/hanging arrangement of above projector complete with standard accessories and as per the tender specification.	Custom	2
3	Supply, Installation, testing & commissioning of 170" Motorized projection screen with 16 : 10 aspect ratio complete with standard accessories as per the tender specification.	Suvira/Liberty	2
4	Supply, Installation, testing & commissioning of 55" or better LED display with Resolution : 3840 x 2160 or better; Viewing Angle : 178 degree (H) x 178 degree (V) or better; Built in speaker; Ports : HDMI x 2 or better; VGA X 1 or better; USB x 1 or better; Audio In x 1 or better; RS-232 ; Weight : 6kg or better; complete with standard accessories and as per the tender specification.	Sony/Samsung/Christie/Panasonic	2

5	Supply, Installation, testing & commissioning of Wall plate type Presentation Point cum Extender having 1 x HDMI or better, 1 x VGA with Audio or better input; 1 x HDMI or better output; scaler : Yes; Resolution : 4K or better; Distance supported : 70 Mtr. or better; EDID Support; HDCP 2.2 Compliant, complete with standard accessories as per the tender specification.	Kramer/KeyDigital/Crestron	4
6	Supply, Installation, testing & commissioning of 8 X 8 Matrix Switcher having 8 or better HDMI input; 8 or better HDMI Output; Resolution Support : 4K or better; Audio Deembedding; EDID Support; HDCP Compliant; IR/Serial Ports; Front panel button/LED : Yes; complete with standard accessories as per the tender specification. TO be reviewed with Consultant	Kramer/KeyDigital/Crestron	1
7	Supply, Installation, testing & commissioning of HDMI over HDBaseT Extender having Transmitter input : HDMI, Transmitter Output : HDBaseT; receiver Input : HDBaseT, Receiver Output : HDMI; Resolution Support : 4K or better; EDID Support; HDCP 2.2 Compliant; IR ports : Yes; Serial Ports : Yes; complete with standard accessories as per the tender specification.	Kramer/KeyDigital/Crestron	7
8	Supply, Installation, testing & commissioning of Master Controller having 6 or better IR/RS 232 Port; 1 or better Relay; USB port; Communication Port : Ethernet complete with standard accessories as per the tender specifications.	Kramer/KeyDigital/Crestron	1
9	Supply, Installation, testing & commissioning of AV recorder; It captures presentation content from a computer or other source along with a live camera image and records them together in full-motion HD. The two images may be composited on screen side-by-side or picture-in-picture (PIP); Allows live streaming of HD video and audio over an IP network; Captures in high-quality H.264 format at up to HD 1080p resolution; Records the complete AV presentation, classroom lecture, or training session; Designed for college, university, teaching hospital, government and business applications; Built-in scaling ensures compatibility with a full range of sources; Allows control system integration via Ethernet; Record and stream simultaneously; Internal Storage complete with standard accessories as per the tender specification.	Extron/Lumens	1

10	Supply, Installation, testing & commissioning of Video Conferencing System with Multiparty (Min. 5 or better) License with CMOS technology camera ; 2MP or better Image Sensor; 12x or better optical and digital Zoom; PAN Angle : ± 100 degree or better; Tilt Angle : ± 20 degree or better; Communication Protocol : H.263, H.263+, H.264, H.264 high profile, Video Input 1 or better DVI /HDMI; Video Output : 1x HDMI or better, 1 x DVI or better; RS-232 control or better; Audio Input and Output; ISDN; 1 or better USB port; Min. 80 preset position complete with standard accessories as per the tender specification.	Sony/Cisco/Polycom	1
11	Supply, Installation, testing & commissioning of PTZ Camera having 30 X or better optical zoom; 12 x or better digital Zoom; CMOS Device; PAN Angle : 170 degree or better; Tilt Angle : 15 degree or better to 20 degree or better; Video Output : HDMI; Lens Value : 1.6 mm to 4.7 or better; Preset 15 or better complete with standard accessories as per the tender specification.	Sony/Panasonic	2
12	Supply, Installation, testing & commissioning of Joystick Controller for Camera having Selection Button; Pan / Tilt / Zoom Function; Maximum Controller 5 or better; Preset Pattern : Yes; complete with standard accessories as per the tender specification.	Sony/Panasonic	1
13	Supply, Installation, testing & commissioning of Wireless touch panel with software for AV Controlling with standard accessories as per the tender specification.	Apple/Crestron/KeyDigital/Kramer	1
14	Supply, Installation, testing & commissioning of 8 port Network switch with standard accessories as per the tender specification.	Netgear/Dlink	1
15	Supply, Installation, testing & commissioning of Wireless Access points with standard accessories as per the tender specification.	Netgear/Dlink	1
16	Supply & Laying of 2m. HDMI-HDMI cable as per the tender specifications and with cable ties/markers.	Crestron/Klotz/KeyDigital/Kramer	24
17	Supply & Laying of 2m. VGA-VGA cable as per the tender specifications and with cable ties/markers.	Crestron/Klotz/KeyDigital/Kramer	4
18	Supply & Laying of Shielded twisted pair CAT6 cable as per the tender specification with cable ties/markers.	Klotz/Kramer/Dlink	200

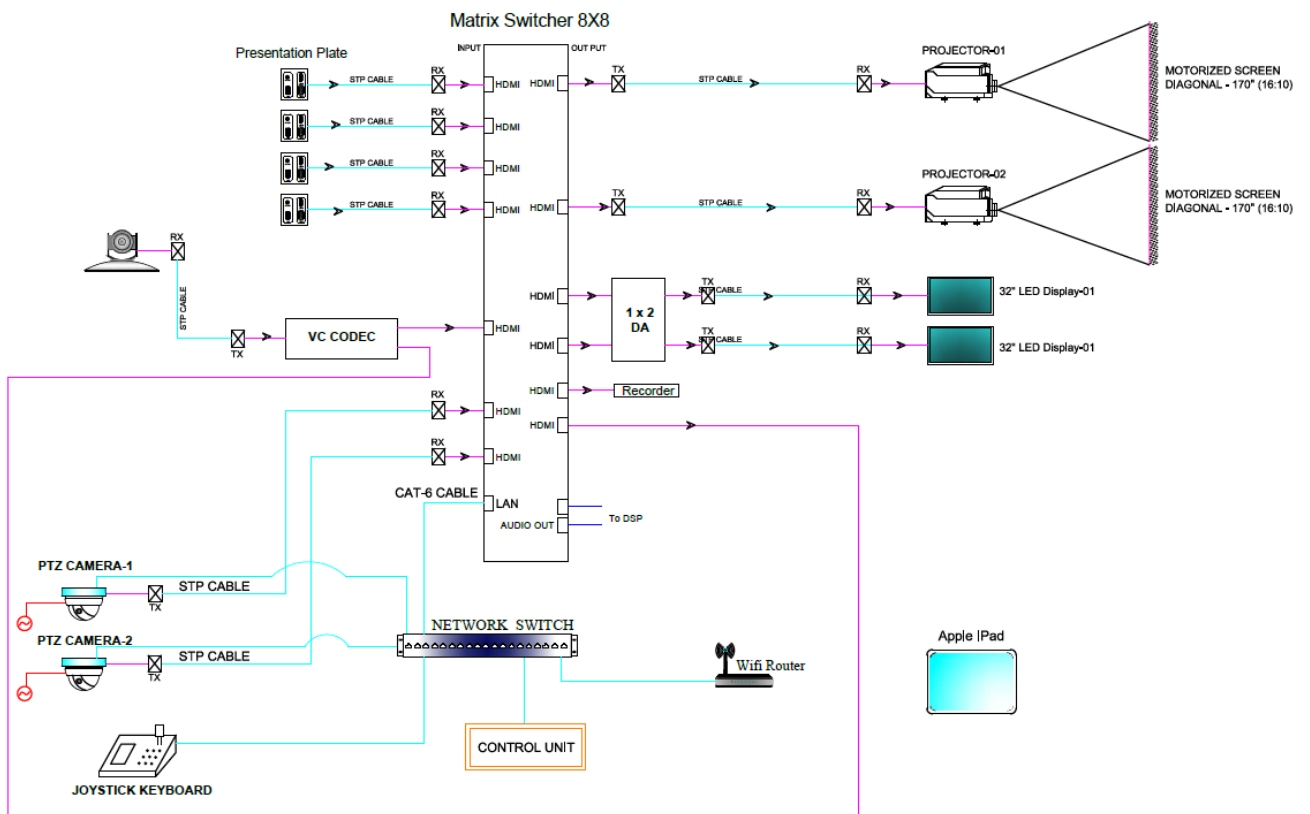
TENDER DRAWING

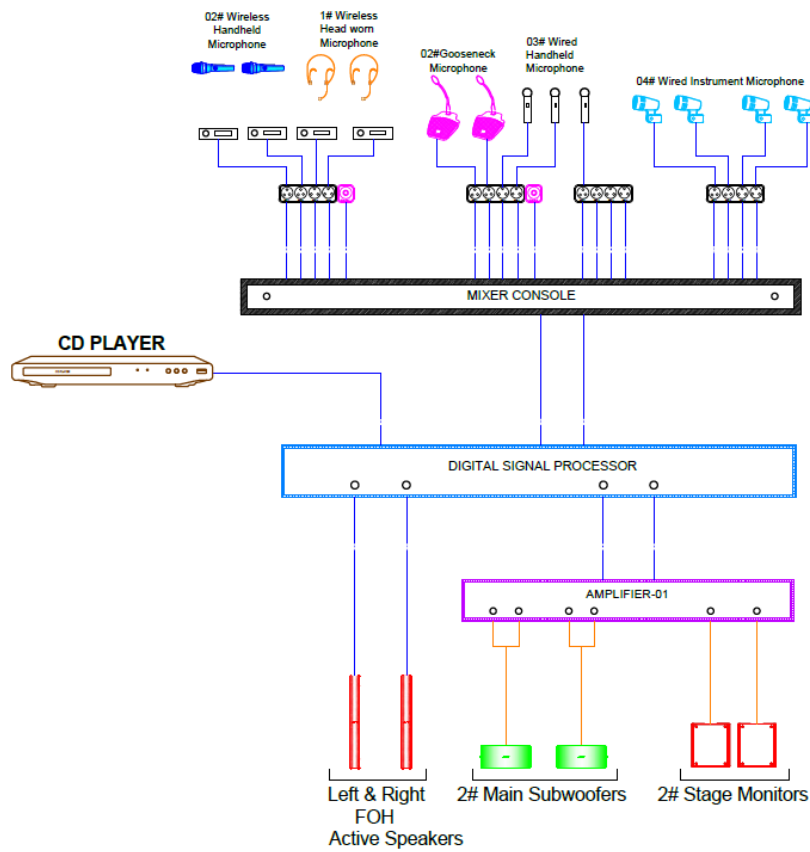
4.27

Tender Drawings

All drawings referred to herein are furnished with and become an integral part of this specification. These drawings and specifications shall remain the property of the Owner and shall be returned by all unsuccessful bidders, within 10 days after formal notification.

Block Schematic of AV System - GMRT





Cable Legend:	
—	2Core 2.5 Sqmm Speaker Cable
—	2Core 4.0 Sqmm Speaker Cable
—	2Core Shielded MIC Cable
—	HDMI Cable
—	Cat-6 Twisted Pair Cable

Chapter 5

Standard forms (To be enclosed by bidders with Part – I, Techno-commercial bid)

Table of Contents		
Sl. No.	Contents	Page No.
1	Company Profile - Annexure – A	65
2	Eligibility Criteria – Annexure – B	66
3	Technical Compliance Statement – Annexure – C	67-74
4	Manufacturers' Authorization Form - Annexure – D	75
5	Schedule of Deviation from General Conditions - Annexure – E	76
6	Bank Guarantee format for Security Deposit* - Annexure – F	77-78
7	Format of Bank Guarantee for Performance Bond* - Annexure – G	79
8	Bid Form - Annexure – H	80
9	Format of Amalgamation/Acquisition - Annexure – I	81
10	Format of Site Visit Certificate – Annexure -J	82
11	Format for furnishing Bank Details for refund of EMD/ making payment – Annexure-K enclosed	83
12	Undertaking for having read and taken note of all the terms and conditions of the Tender as per Annexure- L enclosed.	84

*** To be submitted by vendor on whom order will be placed.**

**Annexure – “A”
COMPANY PROFILE**

Page 1 of 1

(To be filled in by the Bidder)

Sl.No.	Question	Response
1.1	Company Name	
1.2	Type of firm Proprietary / Partnership / Pvt. Ltd. / Ltd. / Single Person Company / LLP	
1.3	Date of Incorporation	
1.4	Company Head Office address	
	* Contact person(s) Name	
	* Phone Number	
	* Fax Number	
	* E-mail Address	
1.5	Address of office at Pune. Shop & Estt Registration Act.	
	* Contact person(s) Name	
	* Phone Number	
	* Fax Number	
	* E-mail Address	
1.6	State pending or past litigation if any within the last 3 years with details and explain reasons. Please also mention any claims/complaints received in the last three years.	
1.7	Resumes of key personnel that must reflect skills relating to audio, video, teleconferencing (audio and video), integrated control systems, programming, project management, CTS , CTS-I & CTS-D Certification etc.	
1.8	Duration of the Dealership	1) 2) 3) 4)
1.9	Extent of Factory Training your Engineer's have	
2.0	Level of Certification of your Engineer have	
2.1	Number of years of experience your Engineer have in installation & providing _____ support in respect of Audio System	

Signature of the Bidder

Name & Designation

Company Seal

Date:

ELIGIBILITY CRITERIA

Sr. No.	Description	Details to be furnished by the bidder enclosing relevant documents in the technical bid.
1	Bidder must visit the site to know exact scope of work, site conditions etc. and submit certificate of visit as per Annexure –J , duly signed and sealed by Administrative Officer, GMRT OR authorized representative/official, with the bid.	
2	The bidder shall provide / supply all the components of the system from the specified OEM /distributor with three years onsite comprehensive warranty/guarantee and also assurance about the after sales/service. The bidder shall be currently authorized by the manufacturer of the major components of the system to sell their products and initiate warranty service on the same items. Major components of the system shall include, but not be limited to, data/video projectors, video processing equipment, audio processing equipment, power amplifiers, speakers, etc. Proof of this may be requested during the bidding process. Proof of franchise shall be in the form of manufacturer authorization addressed to the institute stating that the bidder is currently authorized to sell/service their products.	
3	Bidder must have executed similar contracts of value stated below in the past seven years from the date of publishing of the tender ie., between <u>01.12.2011 to 01.12.2018</u> Similar works means providing complete audio reinforcement & video projecting system for Auditorium/conference hall /theatre/or any large halls having more than 100 seats.	
3a	One single job costing not less than 80% of Estimated cost	
3b	Two jobs each costing not less than 60% of Estimated cost	
3c	Three jobs each costing not less than 40% of Estimated cost	
5	The documentation shall include the names, locations, and points of contact for at least three installations of the type and complexity specified herein. Tenderers shall indicate the type of each referenced system and certify that each system has performed satisfactorily in the manner intended for a period of not less than <u>36 months</u> . Performance Certificate confirming the same from your client to be submitted.	
6	Bidder is required to provide the onsite comprehensive warranty of minimum three years for all the items and services.	
7	Bidder must not have been black listed by TIFR or another Education / R&D Govt. organization as on date of submission of bid. Certificate to this effect must be submitted.	
8	Bid must be valid for a minimum period of 180 days from the due date for submission of bid	
9	Bidder is required to submit all relevant documents in support of the above, failing which their bid will not be taken up for technical evaluation.	
10	Successful bidder must be able to submit :- Security Deposit and Performance Guarantee as specified in the tender document.	

NOTE : KINDLY FILL UP THE ABOVE DETAILS AND ENCLOSE ALONGWITH YOUR TECHNICAL BID – PART I, OTHERWISE YOUR BID WILL BE REJECTED.

Signature of the Bidder
Name & Designation
Company Seal

Date :

ANNEXURE “C”
TECHNICAL COMPLIANCE STATEMENT

Page 1 of 8

S. No.	Description	Approved Makes	Compliance Yes/ No	If no or any deviation pl specify or encl separate sheet
A	Sound Reinforcement System			
1	Supply, Installation, testing & commissioning of Active Steerable Column Speaker with Frequency Response (+/-3dB) : 200Hz to 17kHz or better; Frequency Bandwidth (-10 dB) : 58Hz to 18kHz or better; Nominal Dispersion (H X V) : 130 degree (H) X 30 Degree (V) or better; Long Term Power Handling : 250Watt or better; Max SPL @ 1 Mtr (Cont.) : 112 dB or better; Transducers : Min 12 driver of 2.25" or better; Net Weight : Min 12Kg to 15Kg. complete with standard accessories as per the tender specification. (Bidder can quote passive column speaker with Amplifier)	RCF/QSC/Bose		
2	Supply, Installation, testing & commissioning of subwoofer with Frequency Response (+/- 3dB) : 45 Hz to 180 Hz or better; Nominal Dispersion : Omnidirectional; Long Term Power Handling : 500 Watt or better; Impedance : 4/8 Ohms or better; Sensitivity (SPL / W @ 1 Mtr) : 90 dB or better; Max SPL @ 1 Mtr (Cont.) : 117 dB or better; Transducers : min 2 X 10" or 1 x 18" or better; Net Weight : Min 18Kg to 43Kg. complete with standard accessories as per the tender specification.	RCF/QSC/Bose		

S. No.	Description	Approved Makes	Compliance Yes/ No	If no or any deviation pl specify or encl separate sheet
3	Supply, Installation, testing & commissioning of Active/Passive Stage Monitor with Frequency Response (+ / -3dB) : 70 Hz - 16 kHz or better; Nominal Dispersion : 75 H X 60 V or better; Long Term Power Handling : 100 Watt or better; Impedance : 8 ohm; Sensitivity (SPL / W @ 1 Mtr) : 91dB SPL or better; Max SPL @ 1 Mtr (Cont.) : 111dB or Better; Transducers : LF: 1 x 5" or better, HF: 1" or better; Net Weight : Min 6Kg to 18Kg. complete with standard accessories as per the tender specification.	RCF/QSC/Bose		
4	Supply, Installation, testing & commissioning of 8/4 channel Class D power Amplifier with Cont. Power Per Channel (impedance) : 500W @ 4Ohm or better, 250W @ 8Ohm or better; should provide 400Watt or better power at 70/100V (either Per Channel or Bridge Mode); Voltage Gain : 32dB or better; THD : <0.4% or better; Damping factor : >1000 or better; complete with standard accessories and as per the tender specification.	PowerSoft/QSC /Bose/RCF		
5	Supply, Installation, testing & commissioning of Digital Signal Processor having Number of channels : Inputs : 2 or better, Outputs : 4 or better; A/D and D/A Converter : 24-bit or better; Sampling Rate : 48kHz or better; THD + N : 0.05% or better; Dynamic Range : 105 db or better; Routers, Equalizers, Band Pass Filter, Delay, Limiter, Gain, etc. complete with standard accessories and as per the tender specification.	Bose/Biamp/Symetrix		
6	Supply, Installation, testing & commissioning of 24 channel Mixing Console having input configuration : 14 mic or better, 2 stereo or better; 3 or better EQ's; 3 or better AUX; Fader; Effects; Internal Power Supply; Built in compressors / Limiters complete with standard accessories and as per the tender specification.	Mackie/RCF/Allen & Heath		

S. No.	Description	Approved Makes	Compliance Yes/ No	If no or any deviation pl specify or encl separate sheet
7	Supply, Installation, testing & commissioning of Dynamic Wireless handheld Microphone with Cardioid / Hypercardioid / Supercardioid Polar Pattern; RF Freq Range : 548 MHz to 820 MHz or better; Audio Bandwidth : 80 Hz to 15kHz or better; RF Power : 10mW or better; No. of compatible channels : 12 or better; THD : <0.9% or better; Operating Time : 8 hours or better; True Divesity Receiver; Signal to Noise Ratio : >103dB or better; complete with standard accessories and as per the tender specification.	Sennheiser/Shure/ Beyer dynamics		
8	Supply, Installation, testing & commissioning of Condenser Wireless headset Microphone with Cardioid / Hypercardioid / Supercardioid Polar Pattern; RF Freq Range : 548 MHz to 865 MHz or better; Audio Bandwidth : 60 Hz to 13kHz or better; RF Power : 10mW or better; No. of compatible channels : 12 or better; THD : <0.9% or better; Operating Time : 8 hours or better; True Divesity Receiver; Signal to Noise Ratio : >103dB or better; with standard accessories and as per the tender specification.	Sennheiser/Shure/ Beyer dynamics		
9	Supply, Installation, testing & commissioning of 16" Gooseneck Microphone with table top on/off switch with Cardioid / Hypercardioid / Supercardioid Polar Pattern; RF Sheilding; 65dB or better Signal to Noise Ratio; Max SPL : 107dB or better; LED Indication; Frequency respomnse : 50 Hz to 17kHz or better; complete with standard accessories and as per the tender specification.	Sennheiser/Shure/ Beyer dynamics		
10	Supply, Installation, testing & commissioning of Dynamic Wired handheld Microphone with cardioid polar pattern; Frequency response : 50Hz to 15kHz or better; Sensitivity : 1.85mV or better; with standard accessories and as per the tender specification.	Sennheiser/Shure/ Beyer dynamics		
11	Supply, Installation, testing & commissioning of Dynamic Instrument Microphone with cardioid polar pattern; Frequency response : 50Hz to 15kHz or better; Sensitivity : 1.6mV or better; with standard accessories and as per the tender specification.	Sennheiser/Shure/ Beyer dynamics		

S. No.	Description	Approved Makes	Compliance Yes/ No	If no or any deviation pl specify or encl separate sheet
12	Supply, Installation, testing & commissioning of Professional CD cum MP3 Cum USB Player having IR remote control; Balanced XLR outputs, RCA Line output and Record output; rotary knob complete with standard accessories and as per the tender specification.	Tascam/Gemini		
13	Supply, Installation, Testing & Commissioning of Four point Mic Junction box with 1 speakon connector complete with standard accessories and as per tender specifications.	Custom		
14	Supply, Installation, Testing & Commissioning of Four point Mic Junction box complete with standard accessories and as per tender specifications.	Custom		
15	Supply & Laying of 2 core 2.5 sqmm loudspeaker cable and as per the tender specifications with cable ties /markers.	Belden/Canare/ Extron/Liberty cables/ CommScope or as recommended by OEM of Speakers/ Microphones/ Amplifier		
16	Supply & Laying of 2 core sheilded microphone cable and as per the tender specifications with cable ties/markers.	Belden/Canare/ Extron/Liberty cables/ CommScope or as recommended by OEM of Speakers/ Microphones/ Amplifier		
17	Supply, Installation, Testing & Commissioning of Connector complete with standard accessories and as per tender specifications.	Neutrik/Amphe nol		
18	Supply, Installation, testing & commissioning of Equipment rack and as per the tender specification.	Custom 22U		

S. No.	Description	Approved Makes	Compliance Yes/ No	If no or any deviation pl specify or encl separate sheet
B	Video Projection and Presentation System			
1	Supply, Installation, testing & commissioning of 3LCD/1 DLP or better Projector with brightness of 4000 Lumens or better; Resolution : 1920 x 1200 WUXGA Projector; Resolution is 10000 : 1 or better; 4000 Hours or better lamp life; Ports : 1 or better HDMI, 1 or better VGA, 1 or better Audio Input, 1 or better Audio Output, RS-232, complete with standard accessories and as per the tender specification.	Panasonic/Epson/Christie		
2	Supply, Installation, testing & commissioning of Mounting/hanging arrangement of above projector complete with standard accessories and as per the tender specification.	Custom		
3	Supply, Installation, testing & commissioning of 170" Motorized projection screen with 16 : 10 aspect ratio complete with standard accessories as per the tender specification.	Suvira/Liberty		
4	Supply, Installation, testing & commissioning of 55" or better LED display with Resolution : 3840 x 2160 or better; Viewing Angle : 178 degree (H) x 178 degree (V) or better; Built in speaker; Ports : HDMI x 2 or better; VGA X 1 or better; USB x 1 or better; Audio In x 1 or better; RS-232 ; Weight : 6kg or better; complete with standard accessories and as per the tender specification.	Sony/Samsung/Christie/Panasonic		
S. No.	Description	Approved Makes	Compliance Yes/ No	If no or any deviation pl specify or encl separate sheet

5	Supply, Installation, testing & commissioning of Wall plate type Presentation Point cum Extender having 1 x HDMI or better, 1 x VGA with Audio or better input; 1 x HDMI or better output; scaler : Yes; Resolution : 4K or better; Distance supported : 70 Mtr. or better; EDID Support; HDCP 2.2 Compliant, complete with standard accessories as per the tender specification.	Kramer/KeyDigital/Crestron		
6	Supply, Installation, testing & commissioning of 8 X 8 Matrix Switcher having 8 or better HDMI input; 8 or better HDMI Output; Resolution Support : 4K or better; Audio Deembedding; EDID Support; HDCP Compliant; IR/Serial Ports; Front panel button/LED : Yes; complete with standard accessories as per the tender specification. TO be reviewed with Consultant	Kramer/KeyDigital/Crestron		
7	Supply, Installation, testing & commissioning of HDMI over HDBaseT Extender having Transmitter input : HDMI, Transmitter Output : HDBaseT; receiver Input : HDBaseT, Receiver Output : HDMI; Resolution Support : 4K or better; EDID Support; HDCP 2.2 Compliant; IR ports : Yes; Serial Ports : Yes; complete with standard accessories as per the tender specification.	Kramer/KeyDigital/Crestron		
8	Supply, Installation, testing & commissioning of Master Controller having 6 or better IR/RS 232 Port; 1 or better Relay; USB port; Communication Port : Ethernet complete with standard accessories as per the tender specifications.	Kramer/KeyDigital/Crestron		
S. No.	Description	Approved Makes	Compliance Yes/ No	If no or any deviation pl specify or encl separate sheet

9	Supply, Installation, testing & commissioning of AV recorder; It captures presentation content from a computer or other source along with a live camera image and records them together in full-motion HD. The two images may be composited on screen side-by-side or picture-in-picture (PIP); Allows live streaming of HD video and audio over an IP network; Captures in high-quality H.264 format at up to HD 1080p resolution; Records the complete AV presentation, classroom lecture, or training session; Designed for college, university, teaching hospital, government and business applications; Built-in scaling ensures compatibility with a full range of sources; Allows control system integration via Ethernet; Record and stream simultaneously; Internal Storage complete with standard accessories as per the tender specification.	Extron/Lumens		
10	Supply, Installation, testing & commissioning of Video Conferencing System with Multiparty (Min. 5 or better) License with CMOS technology camera ; 2MP or better Image Sensor; 12x or better optical and digital Zoom; PAN Angle : ± 100 degree or better; Tilt Angle : ± 20 degree or better; Communication Protocol : H.263, H.263+, H.264, H.264 high profile, Video Input 1 or better DVI /HDMI; Video Output : 1x HDMI or better, 1 x DVI or better; RS-232 control or better; Audio Input and Output; ISDN; 1 or better USB port; Min. 80 preset position complete with standard accessories as per the tender specification.	Sony/Cisco/Polycom		
11	Supply, Installation, testing & commissioning of PTZ Camera having 30 X or better optical zoom; 12 x or better digital Zoom; CMOS Device; PAN Angle : 170 degree or better; Tilt Angle : 15 degree or better to 20 degree or better; Video Output : HDMI; Lens Value : 1.6 mm to 4.7 or better; Preset 15 or better complete with standard accessories as per the tender specification.	Sony/Panasonic		
S. No.	Description	Approved Makes	Compliance Yes/ No	If no or any deviation pl specify or encl separate sheet

12	Supply, Installation, testing & commissioning of Joystick Controller for Camera having Selection Button; Pan / Tilt / Zoom Function; Maximum Controller 5 or better; Preset Pattern : Yes; complete with standard accessories as per the tender specification.	Sony/Panasonic		
13	Supply, Installation, testing & commissioning of Wireless touch panel with software for AV Controlling with standard accessories as per the tender specification.	Apple/Crestron/ KeyDigital/ Kramer		
14	Supply, Installation, testing & commissioning of 8 port Network switch with standard accessories as per the tender specification.	Netgear/Dlink		
15	Supply, Installation, testing & commissioning of Wireless Access points with standard accessories as per the tender specification.	Netgear/Dlink		
16	Supply & Laying of 2m. HDMI-HDMI cable as per the tender specifications and with cable ties/markers.	Crestron/Klotz/ KeyDigital/ Kramer		
17	Supply & Laying of 2m. VGA-VGA cable as per the tender specifications and with cable ties/markers.	Crestron/Klotz/ KeyDigital/ Kramer		
18	Supply & Laying of Shielded twisted pair CAT6 cable as per the tender specification with cable ties/markers.	Klotz/Kramer/ Dlink		

MANUFACTURERS' AUTHORIZATION FORM

[The Bidder shall require the Manufacturer to fill in this Form in accordance with the instructions indicated. This letter of authorization should be on the letterhead of the Manufacturer and should be signed by a person with the proper authority to sign documents that are binding on the Manufacturer.]

Date:

Tender No.:

To:

WHEREAS We *[insert complete name of Manufacturer]*,who are official manufacturers of *[insert type of goods manufactured]*, having factories at *[insert full address of Manufacturer's factories]*,do hereby authorize *[insert complete name of Bidder]* to submit a bid the purpose of which is to provide the following Goods, manufactured by us *[insert name and or brief description of the Goods]*, and to subsequently negotiate and sign the Contract. We hereby extend our warranty, with respect to the Goods offered by the above firm.

Signed:

[insert signature(s) of authorized representative(s) of the Manufacturer]

Name:

[insert complete name(s) of authorized representative(s) of the Manufacturer]

Title:

[insert title]

Duly authorized to sign this Authorization on behalf of:

[insert complete name of Bidder]

Dated on _____ day of _____, _____

[insert date of signing]

SCHEDULE OF DEVIATION FROM GENERAL CONDITIONS

1) The following are the particulars of deviations from the requirements of the tender specifications:

CLAUSE	DEVIATION	REMARKS (INCLUDING JUSTIFICATION)

Place:

Date:

Signature and seal of the
Manufacturer/Bidder

NOTE:

1) Where there is no deviation, the statement should be returned duly signed with an endorsement indicating "No Deviations".

BANK GUARANTEE FORMAT FOR SECURITY DEPOSIT

(To be submitted on appropriate value of Non Judicial stamp paper from any Scheduled Bank)

ORDER NO. _____ DTD. _____

To,
Centre Director
National Centre for Radio Astrophysics,
Tata Institute of Fundamental Research,
Pune University Campus, Ganeshkhind,
Pune-411 007, Maharashtra, INDIA.

This deed of guarantee executed on the _____ day of _____ by the _____ (bank) (hereinafter referred to as "the Bank: which expression shall wherever the context so requires or admits means and includes its successors and assigns).

WHEREAS M/s. _____ having their registered office at _____ (hereinafter called "the Contractor") have conveyed to the Centre Director, NCRA/TIFR, Pune (hereinafter called "the Purchaser") acceptance of the Purchase Order / Work Order (whichever is applicable) No. _____ dtd. _____ for the _____ (hereinafter called the "Contractor").

In accordance with the terms as set out in the above quoted Purchase Order / Work Order, you have agreed to accept a bank guarantee for Rs. _____ (Rupees _____ only) equivalent to _____ (percent) of the value of the contract in lieu of security deposit to be valid upto _____ or any extension that may be agreed to. For this purpose, you have agreed to accept our Guarantee.

In consideration thereof, we hereby (Bank), at the request of M/s. _____ irrecoverably and unconditionally undertake and guarantee to refund to the Centre Director, NCRA, TIFR, Pune on behalf of the said contractor a sum of Rs. _____ on demand and without any demure against any loss or damage that may be suffered by the Purchaser on receipt of your intimation that the M/s. _____ have for no reason failed to comply with any of the terms and conditions of the said contract, especially Item No. _____ of Annexure _____ to the Purchase Order regarding delivery schedule.

This guarantee shall be valid till (the date of completion of the work contained in the said order) as certified by you or till any extension of the date as may be agreed to by us. In the event, the guarantee shall expire 30 days after the said order is satisfactorily completed by you as conforming to the terms and conditions of the contract.

This guarantee shall not be revoked without your express consent and shall not be affected by you granting time or any other indulgence to M/s. _____ which shall include but not be limited to postponement from time to time if the exercise of any power vested in you or any right that you may have against to exercise the same in any manner at any time and either to enforce any covenant contained or implied in the said contract or any other course or remedy or security available to

you and our bank shall not be released from its obligation under this bank guarantee by your exercising any of your rights with regard to matters aforesaid or any of them or by reason of any other act or forbearance or other act of omission or commission on your part or any other indulgence shown by you or any other matter or thing whatsoever which under law would but for this provision have the effect of relieving our bank from its obligation under this guarantee.

We shall agree that you shall be entitled at your option to enforce this guarantee against our bank as a principal debtor by a mere demand in writing from you which shall be conclusive evidence to us that such repayment is due and payable to you under the terms of the said contract and shall be binding on us notwithstanding any other security or guarantee that you may have in relation to M/s. _____ liabilities in respect of this premises.

This guarantee shall not be affected by any change in the constitution of our bank or of the companies or for any other reason whatsoever.

Notwithstanding anything herein contained our liability under this guarantee is restricted to

Rs. _____ (Rupees _____) and the guarantee will remain in force upto _____ or any extension that may be agreed to unless a demand or claim is filled against us on or before that said date of expiry viz. _____ all your rights under this guarantee shall be forfeited and we shall be relieved and discharged from all liabilities hereunder.

IN WITNESS WHEREOF the undersigned being duly authorized by the Directors of the Bank has hereunto set his hand at _____ this _____ day.

SIGNATURE OF BANK OFFICIAL

WITH CODE

Bank Address :
Name :
Land Line No. :
Mobile No. :
Email address :
Rubber Stamp :

SIGNATURE OF WITNESS:

1.

2.

FORMAT OF BANK GUARANTEE FOR PERFORMANCE

(On Non Judicial Stamp Paper of Appropriate Value)

(To be obtained from any Scheduled Bank by vendor on whom purchase order will be released)

To,
Centre Director
NCRA, Pune

WHEREAS

..... (Name and address of the supplier) (hereinafter called "the supplier") has undertaken, in pursuance of contract no. datedto supply (description of goods and services) (herein after called "the contract").

AND WHEREAS it has been stipulated by you in the said contract that the supplier shall furnish you with a bank guarantee by a scheduled commercial bank recognized by you for the sum specified therein as security for compliance with its obligations in accordance with the contract;

AND WHEREAS we have agreed to give the supplier such a bank guarantee;

NOW THEREFORE we hereby affirm that we are guarantors and responsible to you, on behalf of the supplier, up to a total of (amount of the guarantee in words and figures), and we undertake to pay you, upon your first written demand declaring the supplier to be in default under the contract and without cavil or argument, any sum or sums within the limits of (amount of guarantee) as aforesaid, without your need to prove or to show grounds or reasons for your demand or the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the supplier before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the contract to be performed there under or of any of the contract documents which may be made between you and the supplier shall in any way release us from any liability under this guarantee and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid until the day of, 20.....
.....

(Signature of the authorized officer of the Bank)

Name : With Code :

Designation :
Email address :

BID FORM

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

Date:

[insert date (as day, month and year) of Bid Submission]

Tender No.:

[insert number from Tender Notice]

To:

[insert complete name of Purchaser]

We, the undersigned, declare that:

- (a) We have read & understood the bidding document and have no reservations,
- (b) By submitting a Tender, the Contractor thereby certifies that it is qualified in all areas pertaining to, either directly or indirectly, the Work. In the event the Contractor becomes unable to complete the Work in accordance with the Contract Documents, or the satisfaction of NCRA-TIFR or its representatives, due to a lack of understanding of equipment, systems or services required by the Contract Documents, it shall be the responsibility of the Contractor to retain the services of the applicable manufacturers' representatives to expeditiously complete the Work in accordance with the Architect's construction/interior decoration/schedule with no additional cost to the Owner.
- (c) The Contractor shall provide manufacturer/factory-certified technicians to install, commission, and test the Work.
- (d) The Contractor shall ensure compliance with, and have a thorough understanding of, all local codes and contract conditions pertaining to this Project.
- (e) The Contractor shall maintain an inventory of spare parts and other items critical to system operation and as necessary to meet the emergency service requirements of this Project within the service centre during the period of warranty
- (f) We offer to execute the order in conformity with the Bidding Documents and in accordance with the Delivery Schedules specified in the Schedule of Requirements the following Goods and Related Services *[insert a brief description of the Goods and Related Services]*;
- (g) Our bid shall be valid for a period of **180 days**, from the date of opening techno commercial bid (Part– I), and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (h) If our bid is accepted, we agree to submit security deposit and performance guarantee as per mentioned the tender document;

Signed: *[insert signature of person whose name and capacity are shown]* In the capacity of *[insert legal capacity of person signing the Bid Submission Form]*

e) Name: *[insert complete name of person signing the Bid Submission Form]* Duly authorized to sign the bid for and on behalf of: *[insert complete name of Bidder]*

f) Dated on _____ day of _____, _____ *[insert date of signing]*

FORMAT OF DECLARATION REGARDING AMALGAMATION / ACQUISITION

No. ----- Date:-----

1) Amalgamation/Acquisition

In the event of M/s. -----proposes for amalgamation, acquisition or sale of its business to any other firm during this contract period, M/s.----- and proposed Buyer/Successor of the Principal Company are liable to execute, fulfill contractual obligations without any deviations. For this purpose M/s. -----/M/s.----- and proposed Buyer/Successor of the Principal Company shall indemnify itself to the Centre Director, National Centre for Radio Astrophysics, TIFR, Pune to fulfill the contractual obligations as per the terms of NCRA Tender and bids of M/s. -----No. ----- dated-----and National Centre for Radio Astrophysics P.O. -----dated ----- . The contractual obligations are supply, installation, commissioning, configuration, warranty maintenance/replacement of spares, accessories etc. as per the above mentioned Purchase Order.

Company Seal & Phone No.:

Name & Signature of Bidder :

Designation :

Date :

CERTIFICATE OF VISIT TO THE SITE

Tender No.: NCRA:178L:PUB380:2018

To,
Centre Director,
NCRA-TIFR,
Pune 411007, India.

Sub : Tender for SITC of Sound Reinforcement system & Video Projection at GMRT.

Dear Sir,

With reference to your tender mentioned above, we have visited and have understood the conditions of the site

**Giant Metrewave Radio Telescope (GMRT)
National Centre for Radio Astrophysics (NCRA),
Tata Institute of Fundamental Research (TIFR),
At. Post. Khodad, Tal. Junnar,
Dist. Pune 410504.
Tel : 02132-258300/400**

where the tendered work is to be carried out.

Name & Signature of Bidder :

Name & Signature of Centre's Representative:

Designation :

Date :

Company Seal & Phone No .:

Date :

ANNEXURE – K

Page 1 of 1

BANK DETAILS FOR REFUND OF EMD / MAKING PAYMENT

(Information to be submitted on Vendors Company Letter head)

To,

The Accounts Officer,

NCRA-TIFR ,Pune University Campus,

Post Bag No-3, Ganeshkhind,

Pune-411007

Sub:- Bank Details for payment through Electronic Mode i.e. NEFT/RTGS

Sir,

It is requested that settlement of all our bill/s from now onwards may please be made through Electronic Mode (NEFT/RTGS). The details of My/our bank account are as under :-

1. Beneficiary Name
2. Full Address
3. IFSC Code

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4. Bank Account No.

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

(Full Account Number to be furnished for making payment to be made through Electronic Mode)
5. Type of Account viz Saving A/C / Current A/C / Cash Credit A/C / Overdraft
6. MICR No.

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Note: 1st three digit & last of 3 digit of MICR No. Should not be zero.
7. Name of the Bank:
8. Full Address of the Bank:

I hereby declare that the particulars given above are correct and complete. If the transaction is delayed or not effected at all for any reasons, We will not hold NCRA TIFR Pune responsible and agree to discharge the responsibility expected of us as a participant under the scheme.

Yours Faithfully

()

Signature of authorized Officer of the company

Name
Designation
Company's seal
Date

ANNEXURE-L

Page 1 of 1

UNDERTAKING

1. We have studied the complete tender document and accept all the terms and conditions.
2. We have studied the complete tender document and accept all the terms and conditions except those specified in **Annexure E**.
3. It is certified that my firm/agency/company has never been black listed by any of the Departments / Autonomous Institutions / Universities / Public Sector Undertakings of the Government of India or Government of Maharashtra or any other State Government or Public Sector Banks or Local Bodies / Municipalities and no criminal case is pending against the said firm / agency as on **date of bidding**.

Date	:	Signature of Bidder	:
		Name & Designation	:
Place	:	Company Name & Address	:
		Company Seal & Phone No.	:

CHAPTER – 6

UN-PRICED BID (FOR RUPEE QUOTE)

Page 1 of 1

The specific spaces receiving audio visual outfitting includes:

- MP Building Auditorium (220 Seats)

GST% on supply.	_____ %
GST% applicable on installation charges	_____ %
AS SPECIFIED IN CHAPTER 1	
DELIVERY PERIOD including installation, testing & satisfactory Demo.	_____ Months
WARRANTY PERIOD	_____ YEAR /YEARS
BID VALIDITY	

Date :

Place :

Signature of Bidder :

Name & Designation :

Company Name & Address :

Company Seal & Phone No. :

PART - II**PRICE BID – IN RUPEE QUOTE****(To be submitted in a separate sealed Envelope)****BIDDERS MUST QUOTE THEIR RATES IN THIS FORMAT ONLY**

S.r. No.	Description	Approved Makes	Quoted make & model	Qty	Rate each	Amount Rs.
A	Sound Reinforcement System					
1	Supply, Installation, testing & commissioning of Active Steerable Column Speaker with Frequency Response (+/- 3dB) : 200Hz to 17kHz or better; Frequency Bandwidth (-10 dB) : 58Hz to 18kHz or better; Nominal Dispersion (H X V) : 130 degree (H) X 30 Degree (V) or better; Long Term Power Handling : 250Watt or better; Max SPL @ 1 Mtr (Cont.) : 112 dB or better; Transducers : Min 12 driver of 2.25" or better; Net Weight : Min 12Kg to 15Kg. complete with standard accessories as per the tender specification. (Bidder can quote passive column speaker with Amplifier)	RCF/QSC/Bose		2		
S.r. No.	Description	Approved Makes	Quoted make & model	Qty	Rate each	Amount Rs.

2	Supply, Installation, testing & commissioning of subwoofer with Frequency Response (+/- 3dB) : 45 Hz to 180 Hz or better; Nominal Dispersion : Omnidirectional; Long Term Power Handling : 500 Watt or better; Impedance : 4/8 Ohms or better; Sensitivity (SPL / W @ 1 Mtr) : 90 dB or better; Max SPL @ 1 Mtr (Cont.) : 117 dB or better; Transducers : min 2 X 10" or 1 x 18" or better; Net Weight : Min 18Kg to 43Kg. complete with standard accessories as per the tender specification.	RCF/QSC/Bose		2		
3	Supply, Installation, testing & commissioning of Active/Passive Stage Monitor with Frequency Response (+ / -3dB) : 70 Hz - 16 kHz or better; Nominal Dispersion : 75 H X 60 V or better; Long Term Power Handling : 100 Watt or better; Impedance : 8 ohm; Sensitivity (SPL / W @ 1 Mtr) : 91dB SPL or better; Max SPL @ 1 Mtr (Cont.) : 111dB or Better; Transducers : LF: 1 x 5" or better, HF: 1" or better; Net Weight : Min 6Kg to 18Kg. complete with standard accessories as per the tender specification.	RCF/QSC/Bose		2		
S.r. No.	Description	Approved Makes	Quoted make & model	Qty	Rate each	Amount Rs.

4	Supply, Installation, testing & commissioning of 8/4 channel Class D power Amplifier with Cont. Power Per Channel (impedance) : 500W @ 4Ohm or better, 250W @ 8Ohm or better; should provide 400Watt or better power at 70/100V (either Per Channel or Bridge Mode); Voltage Gain : 32dB or better; THD : <0.4% or better; Damping factor : >1000 or better; complete with standard accessories and as per the tender specification.	PowerSoft/QSC/Bose/RCF		1		
5	Supply, Installation, testing & commissioning of Digital Signal Processor having Number of channels : Inputs : 2 or better, Outputs : 4 or better; A/D and D/A Converter : 24-bit or better; Sampling Rate : 48kHz or better; THD + N : 0.05% or better; Dynamic Range : 105 db or better; Routers, Equalizers, Band Pass Filter, Delay, Limiter, Gain, etc. complete with standard accessories and as per the tender specification.	Bose/Biamp/Symetrix		1		
6	Supply, Installation, testing & commissioning of 24 channel Mixing Console having input configuration : 14 mic or better, 2 stereo or better; 3 or better EQ's; 3 or better AUX; Fader; Effects; Internal Power Supply; Built in compressors / Limiters complete with standard accessories and as per the tender specification.	Mackie/RCF/Allen & Heath		1		
S.r. No.	Description	Approved Makes	Quoted make & model	Qty	Rate each	Amount Rs.

7	Supply, Installation, testing & commissioning of Dynamic Wireless handheld Microphone with Cardioid / Hypercardioid / Supercardioid Polar Pattern; RF Freq Range : 548 MHz to 820 MHz or better; Audio Bandwidth : 80 Hz to 15kHz or better; RF Power : 10mW or better; No. of compatible channels : 12 or better; THD : <0.9% or better; Operating Time : 8 hours or better; True Divesity Receiver; Signal to Noise Ratio : >103dB or better; complete with standard accessories and as per the tender specification.	Sennheiser/Shure/Beyerdynamics		2		
8	Supply, Installation, testing & commissioning of Condenser Wireless headset Microphone with Cardioid / Hypercardioid / Supercardioid Polar Pattern; RF Freq Range : 548 MHz to 865 MHz or better; Audio Bandwidth : 60 Hz to 13kHz or better; RF Power : 10mW or better; No. of compatible channels : 12 or better; THD : <0.9% or better; Operating Time : 8 hours or better; True Divesity Receiver; Signal to Noise Ratio : >103dB or better; with standard accessories and as per the tender specification.	Sennheiser/Shure/Beyerdynamics		2		
S.r. No.	Description	Approved Makes	Quoted make & model	Qty	Rate each	Amount Rs.

9	Supply, Installation, testing & commissioning of 16" Gooseneck Microphone with table top on/off switch with Cardioid / Hypercardioid / Supercardioid Polar Pattern; RF Shielding; 65dB or better Signal to Noise Ratio; Max SPL : 107dB or better; LED Indication; Frequency response : 50 Hz to 17kHz or better; complete with standard accessories and as per the tender specification.	Sennheiser/Shure/Beyerdynamics		2		
10	Supply, Installation, testing & commissioning of Dynamic Wired handheld Microphone with cardioid polar pattern; Frequency response : 50Hz to 15kHz or better; Sensitivity : 1.85mV or better; with standard accessories and as per the tender specification.	Sennheiser/Shure/Beyerdynamics		3		
11	Supply, Installation, testing & commissioning of Dynamic Instrument Microphone with cardioid polar pattern; Frequency response : 50Hz to 15kHz or better; Sensitivity : 1.6mV or better; with standard accessories and as per the tender specification.	Sennheiser/Shure/Beyerdynamics		4		
12	Supply, Installation, testing & commissioning of Professional CD cum MP3 Cum USB Player having IR remote control; Balanced XLR outputs, RCA Line output and Record output; rotary knob complete with standard accessories and as per the tender specification.	Tascam/Gemini		1		
S.r. No.	Description	Approved Makes	Quoted make & model	Qty	Rate each	Amount Rs.

13	Supply, Installation, Testing & Commissioning of Four point Mic Junction box with 1 speakon connector complete with standard accessories and as per tender specifications.	Custom		2		
14	Supply, Installation, Testing & Commissioning of Four point Mic Junction box complete with standard accessories and as per tender specifications.	Custom		2		
15	Supply & Laying of 2 core 2.5 sqmm loudspeaker cable and as per the tender specifications with cable ties /markers.	Belden/Canare/Ext ron/Liberty cables/ CommScope or as recommended by OEM of Speakers/ Microphones/ Amplifier		100m		
16	Supply & Laying of 2 core sheilded microphone cable and as per the tender specifications with cable ties/markers.	Belden/Canare/Ext ron/Liberty cables/ CommScope or as recommended by OEM of Speakers/ Microphones/ Amplifier		200m		
17	Supply, Installation, Testing & Commissioning of Connector complete with standard accessories and as per tender specifications.	Neutrik/Amphenol		1		
18	Supply, Installation, testing & commissioning of Equipment rack and as per the tender specification.	Custom 22U		1		
S.r. No.	Description	Approved Makes	Quoted make & model	Qty	Rate each	Amount Rs.
B	Video Projection and Presentation System					

1	Supply, Installation, testing & commissioning of 3LCD/1 DLP or better Projector with brightness of 4000 Lumens or better; Resolution : 1920 x 1200 WUXGA Projector; Resolution is 10000 : 1 or better; 4000 Hours or better lamp life; Ports : 1 or better HDMI, 1 or better VGA, 1 or better Audio Input, 1 or better Audio Output, RS-232, complete with standard accessories and as per the tender specification.	Panasonic/Epson/Christie		2		
2	Supply, Installation, testing & commissioning of Mounting/hanging arrangement of above projector complete with standard accessories and as per the tender specification.	Custom		2		
3	Supply, Installation, testing & commissioning of 170" Motorized projection screen with 16 : 10 aspect ratio complete with standard accessories as per the tender specification.	Suvira/Liberty		2		
4	Supply, Installation, testing & commissioning of 55" or better LED display with Resolution : 3840 x 2160 or better; Viewing Angle : 178 degree (H) x 178 degree (V) or better; Built in speaker; Ports : HDMI x 2 or better; VGA X 1 or better; USB x 1 or better; Audio In x 1 or better; RS-232 ; Weight : 6kg or better; complete with standard accessories and as per the tender specification.	Sony/Samsung/Christie/Panasonic		2		
S.r. No.	Description	Approved Makes	Quoted make & model	Qty	Rate each	Amount Rs.

5	Supply, Installation, testing & commissioning of Wall plate type Presentation Point cum Extender having 1 x HDMI or better, 1 x VGA with Audio or better input; 1 x HDMI or better output; scaler : Yes; Resolution : 4K or better; Distance supported : 70 Mtr. or better; EDID Support; HDCP 2.2 Compliant, complete with standard accessories as per the tender specification.	Kramer/KeyDigital/Crestron		4		
6	Supply, Installation, testing & commissioning of 8 X 8 Matrix Switcher having 8 or better HDMI input; 8 or better HDMI Output; Resolution Support : 4K or better; Audio Deembedding; EDID Support; HDCP Compliant; IR/Serial Ports; Front panel button/LED : Yes; complete with standard accessories as per the tender specification. TO be reviewed with COnsultant	Kramer/KeyDigital/Crestron		1		
7	Supply, Installation, testing & commissioning of HDMI over HDBaseT Extender having Transmitter input : HDMI, Transmitter Output : HDBaseT; receiver Input : HDBaseT, Receiver Output : HDMI; Resolution Support : 4K or better; EDID Support; HDCP 2.2 Compliant; IR ports : Yes; Serial Ports : Yes; complete with standard accessories as per the tender specification.	Kramer/KeyDigital/Crestron		7		
S.r. No.	Description	Approved Makes	Quoted make & model	Qty	Rate each	Amount Rs.

8	Supply, Installation, testing & commissioning of Master Controller having 6 or better IR/RS 232 Port; 1 or better Relay; USB port; Communication Port : Ethernet complete with standard accessories as per the tender specifications.	Kramer/KeyDigital/Crestron		1		
9	Supply, Installation, testing & commissioning of AV recorder; It captures presentation content from a computer or other source along with a live camera image and records them together in full-motion HD. The two images may be composited on screen side-by-side or picture-in-picture (PIP); Allows live streaming of HD video and audio over an IP network; Captures in high-quality H.264 format at up to HD 1080p resolution; Records the complete AV presentation, classroom lecture, or training session; Designed for college, university, teaching hospital, government and business applications; Built-in scaling ensures compatibility with a full range of sources; Allows control system integration via Ethernet; Record and stream simultaneously; Internal Storage complete with standard accessories as per the tender specification.	Extron/Lumens		1		
S.r. No.	Description	Approved Makes	Quoted make & model	Qty	Rate each	Amount Rs.

10	Supply, Installation, testing & commissioning of Video Conferencing System with Multiparty (Min. 5 or better) License with CMOS technology camera ; 2MP or better Image Sensor; 12x or better optical and digital Zoom; PAN Angle : ±100 degree or better; Tilt Angle : ±20 degree or better; Communication Protocol : H.263, H.263+, H.264, H.264 high profile, Video Input 1 or better DVI /HDMI; Video Output : 1x HDMI or better, 1 x DVI or better; RS-232 control or better; Audio Input and Output; ISDN; 1 or better USB port; Min. 80 preset position complete with standard accessories as per the tender specification.	Sony/Cisco/Polycom		1		
11	Supply, Installation, testing & commissioning of PTZ Camera having 30 X or better optical zoom; 12 x or better digital Zoom; CMOS Device; PAN Angle : 170 degree or better; Tilt Angle : 15 degree or better to 20 degree or better; Video Output : HDMI; Lens Value : 1.6 mm to 4.7 or better; Preset 15 or better complete with standard accessories as per the tender specification.	Sony/Panasonic		2		
12	Supply, Installation, testing & commissioning of Joystick Controller for Camera having Selection Button; Pan / Tilt / Zoom Function; Maximum Controller 5 or better; Preset Pattern : Yes; complete with standard accessories as per the tender specification.	Sony/Panasonic		1		
13	Supply, Installation, testing & commissioning of Wireless touch panel with software for AV Controlling with standard accessories as per the tender specification.	Apple/Crestron/Key Digital/Kramer		1		
S.r. No.	Description	Approved Makes	Quoted make & model	Qty	Rate each	Amount Rs.

14	Supply, Installation, testing & commissioning of 8 port Network switch with standard accessories as per the tender specification.	Netgear/Dlink		1		
15	Supply, Installation, testing & commissioning of Wireless Access points with standard accessories as per the tender specification.	Netgear/Dlink		1		
16	Supply & Laying of 2m. HDMI-HDMI cable as per the tender specifications and with cable ties/markers.	Crestron/Klotz/Key Digital/ Kramer		24		
17	Supply & Laying of 2m. VGA-VGA cable as per the tender specifications and with cable ties/markers.	Crestron/Klotz/Key Digital/ Kramer		4		
18	Supply & Laying of Shielded twisted pair CAT6 cable as per the tender specification with cable ties/markers.	Klotz/Kramer/Dlink		200		
TOTAL Rs.						

Date :

Signature of Bidder :

Place :

Name & Designation :

Company Name & Address :

Company Seal & Phone No. :

