

BOSE INSTITUTE
Centenary Building
P-1/12, C.I.T. Scheme VII-M, Kankurgachi
Kolkata-700054

Tender No. BI/T/OVR/P/04/2014 dt. 24.3.2014

Sub: Fabrication and installation including commissioning the dome over the observatory tower with 1m slit opening

Sealed tender in two parts viz. **Part-I and Part-II** in prescribed forms are invited from the reputed and resourceful enlisted Class – I (R & B) contractors of P.W.D. as per approved list and C.P.W.D. contractors and bonafied outsiders for the above mentioned work, super scribing tender No. & date on the top of the envelop.

The tenderer should have credential of similar nature of work value upto 60% of quoted amount in a single tender may down load the complete tender documents from our website.

Tender documents, complete in all respect with supporting credential, VAT registration copy, PAN card Xerox and P.T. clearance certificate with requisite earnest money @ 2% of quoted amount and tender fee of Rs. 500/- separately in the form of demand Draft to be drawn in favour of Bose Institute, Kolkata will have to be submitted either in person or by registered post so as to reach the office of the Registrar at the above address on or before **23.04.2014 up to 3:00 P.M.** (I.S.T 15:00 hrs) to be opened on the same day at 4.00 P.M. (16:00 IST) in-presence of tenderers. The Institute will not be responsible for postal delay, if any. Bid offer remains valid for 120 days from the date of opening. The Bose Institute Authority reserve the right to accept and/or reject any/all application at its discretion without assigning any reason whatsoever.

Registrar

**GENERAL RULES AND DIRECTION
FOR THE GUIDANCE OF CONTRACTOR**

1. Contractor tendering for the work should visit the site make himself thoroughly acquainted with the nature requirement of the case, facilities for access of materials source of water supply for boring purposes, removal of rubbish, working facilities, cost of carriage, freight and other charges necessary for the execution of work and shall take into consideration in their tender for any special difficulties they might encounter although these may not be mentioned in the specification, and no claim on any such accounts will be entertained.
2. Tender are to be submitted in two parts viz. **Part-I & Part-II**. Both **Part-I and Part-II** are to be properly sealed in separate covers with superscription of Part No. and reference of tender number, name of work etc. Both these sealed covers are to be sealed in another Big Cover and submitted as per prescribed procedure. **Part-I (Technical Bid)** of the tender are consists of General Paper, credential certificate and other relevant paper, Tender Documents, Cost of tender paper should contain in the part one and will be opened on the scheduled date and time as per NIT in presence of intending tenderers or their authorized representative who like to remain present. After evolution of Technical Bid , **Part-II(Financial Bid)** along with EMD is to be opened only for qualified tenderers .
3. Tenderer is to include in their all the Govt. taxes as will be applicable viz. Sales tax, Income Tax, all duties, Labour welfare Cess and/or any other taxes or local charges payable and no separate claim on any such account can be considered.
4. Tenderer should invariably quoted the rates both in figures and/in words. Tenders which do not comply with this rule will be liable to rejection.
5. Tenderer should sign each and every page of the attached specifications, conditions and schedule of items.
- 6 The tendered rates for the work shall be taken to be firm. The contractor shall not be entitled to any price variation or escalation on any account whatsoever.
7. Sealed tender duly signed should be submitted in duplicate in a sealed cover, super-scribed with the name of the work and addressed to the Registrar, Bose Institute, P-1/12,C.I.T.Scheme-VII-M, Kankurgachi, Kolkata – 700 054.
8. The Institute reserves the right to reject any or all the tenders and is not bound to accept the lowest tender.
9. The documents as a support to be submitted in form of photo copies are as follows with **Part-I** of the Tender Document in of an affidavit before notary as to correctness of the copies of all documents
 - a) Pan Card, Last three year ITR , AUDIT Report & Statement of Account for last Three Year , VAT Registration , Current VAT return copy , P.Tax Challan , Current Trade License (Both Civil & Electrical), Documents towards financial capability of the firm(Bank Solvency),Necessary contractor license to be submitted from Directorate of License Board Govt. of W.B from Govt of India / State Govt.

- b) To qualify for award of the Contract, each bidder should have in the last five years: Achieved in any one year during last five years in the same name and style (excluding current year) a minimum financial turnover of 75% of amount to be quoted as certified by chartered accountant. The turnover will be indexed at the rate of 8% for a year.

: TENDER FOR THE WORK: -

I/We hereby tender for the execution for the Bose Institute of the work specified in the under-written memorandum within the time specified in such memorandum at the rate specified therein, and in accordance in all respects with the specification, designs, drawings and instruction in writing mentioned in the conditions of contract, and with such materials as are provided for, by and in all respects in accordance with such conditions so far as possible.

:- MEMORANDUM: -

- (a) General description of the work : Fabrication and installation including commissioning the dome over the observatory tower with 1m slit opening

(b) Estimated Cost :

(c) Earnest Money : @ 2% of quoted amount.

(d) Security Deposit : 10% of Bill amount.

The security deposit will be collected by deduction from the running bills of the contractor at the rates mentioned above and the earnest money will be treated as part of the security deposit.

Time allowed for the work is **to be completed within 12 (twelve) months** to be reckoned from the 10th day from the date of receiving the Work Order.

The tender will remain open for acceptance for 4 (four) months from date of receipt. Should this tender be accepted, in whole or in part, I/We hereby agree (i) to abide by and fulfill all the terms and provisions of the said conditions annexed hereto and all the terms and provisions in notice inviting tenders so far as applicable and/or in default thereof to forfeit and pay to the Institute the sum of money mentioned in the conditions. A sum of Rs. /- is hereby forwarded in the form of Demand draft/pay Order against the Earnest Money.

If I/We fail to commence the work specified in the above memorandum, I/We agree that the said Director without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money or to execute all the work referred to in the tender documents upon the terms and conditions contained or referred to therein.

Dated :

Witness :

Signature of the Contractor

Address :

Occupation :

The above tender is hereby accepted by me on behalf of the Bose Institute.

Dated : the Day of20

Signature

Bose Institute
P-1/12,C.I.T. Scheme VII-M,Kankurgachi
Kolkata – 700 054

-: SPECIFICATION AND CONDITIONS DEFINITIONS: -

1. INSTITUTE: the term "Institute" hereinafter referred to shall mean Bose Institute, P-1/12,C.I.T.Scheme VII-M,Kolkata – 700 054.
2. ENGINEER-IN-CHARGE: The Engineer-in-Charge shall mean the person employed by Institute for the purpose of superintending the works.
3. The "Contract" means the documents forming the tender and acceptance thereof together with the document referred to therein including these conditions, the specifications, designs, drawings, and instructions issued from time to time by the director, Bose Institute or his authorized representative or the Engineer-in-charge and all these documents taken together shall be deemed to form one contract.
4. The expression work shall be construed and taken to mean the work by or by virtue of the contract contracted to be executed whether temporary or permanent and whether original, altered, substituted or additional.
5. The "Site" shall mean the land and/or other places on, into or through which work is to be executed.
6. The "Contractor shall mean the individual or firm or Company, whether incorporated or not, undertaking the works and shall include the legal personal representative or such individual or the successors of such firm or company.

Words imparting the singular number include the Plural number and vice verse.

-: CLAUSES: -

1. The time allowed for carrying out the work shall be **completed within 12 (twelve) months** and shall be reckoned from the 10th day of receiving the Work Order. The work shall throughout the stipulated period of the contract be processed with due diligence and the contractor shall pay or allow the institute to realize the sum equivalent to 1% of the total cost of work per week subject to a maximum limit of 10% of the Order value or final bill amount whichever is greater as agreed compensation for delay for the period during which the said work shall remain incomplete beyond the time of completion. Notwithstanding above, the director, Bose Institute may at his discretion reduce the amount of compensation and his decision in writing shall be final provide always that the entire amount of compensation to be paid under the provisions of this clause shall not exceed ten percent on the estimated cost of the works as shown in the tender.

2. The employer may without prejudice to his right against the contractor in respect of any delay or inferior workmanship or otherwise or to any claims or damage in respect of any breaches of the contract and without prejudice to any rights or remedies under any of the provisions of this contract or otherwise and whether the date of completion has or has not elapsed, by notice in writing absolutely determine the contract in the following cases: -
 - (i) If the contractor having been given by the Engineer-in-charge a notice in writing to rectify reconstruct or replace any defective work or that the work is being performed in any inefficient or otherwise improper or un-workman-like manner shall omit to comply with the requirement of such notice for a period of 7 day thereafter or if the contractor shall delay or suspend the execution of the work so that either in the judgment of the employer (which shall be final and binding) he will be unable to secure completion of the work by the date of completion or he has already failed to complete the work by that date.
 - (ii) If the contractor commits breach of the terms and conditions of this contract.

3. When the contractor has made himself liable for action under (2) above the employer shall have power: -
 - (a) To determine or rescind the contract as aforesaid (of which termination or recession notice in writing to the contractor by the Institute shall be conclusive evidence). Upon such determination or rescission the security deposit of the contractor shall be liable to be forfeited and shall be absolutely at the disposal of the Institute, and

 - (b) After giving notice to the contractor to measure up the work of the contractor and to take such part thereof as shall be unexecuted out of his hands and to give it to another contractor to complete in which case any

expenses which may be incurred in excess of the sum which would have been paid to the original contractor if, the whole work had been executed by him (of the amount of which excess the certificate in writing of the Engineer-in-charge shall be final and conclusive) be deducted from any money due to him by the Institute under this contract.

compensation for any loss sustained by him by reason of his having purchased or procured any materials or entered into any engagements or made any advances on account or with a view to the execution of the work or the performance of contract. And in case action is taken as aforesaid, the -

Contractor shall not be entitled to recover or be paid any sum for any work there to or actually performed under this contract unless and until the Engineer-in-charge has certified in writing the performance of such work and the value payable in respect thereof and he shall only be entitled to be paid the value as certified.

4. If the contractor shall beside extension of time of completion of the work on the ground of his having been unavoidably hindered in its execution or on any other ground, he shall apply in writing to the Director, Bose institute within thirty days of the date of hindrance on account of which he desires such extension, the director shall if in his opinion (which shall be final) grounds are reasonable authorize such extension of time if any as may in his opinion be necessary and proper, without however involving any escalation of cost or compensation thereof.
5. Within one week of the completion of the work, the contractor shall give notice of such completion to the Engineer-in-Charge and within 10 days of the receipt of such notice the Engineer -in-Charge shall inspect the work and if there is no defect in the work shall furnish the contractor with a certificate of completion, otherwise a provisional certificate and/or (b) for which payment will be made at reduced rates, shall be issued but no certificate of completion, provisional or otherwise shall be issued, nor shall the work be considered to be complete until the contractor shall have removed from the premises on which the work shall be executed, where all scaffoldings, surplus materials, rubbish and all huts and sanitary arrangements required for his work people on the site in connection with the execution of the works as shall have erected for constructed by the contractor and cleaned off the dirt from all wood work, doors, windows, walls, floors or other parts of any building, in upon or about which the work is to be executed or of which he may have had possession for the execution thereof and not until the measurements of the work certified by the Engineer-in-Charge.

If the contractor shall fail to comply with requirements of this clause on or before the date fixed for the completion of the contractor remove such scaffolding surplus materials rubbish etc. and dispose of the same as he thinks fit and the contractor shall have no claim in respect of any such scaffoldings or surplus, materials as aforesaid except for any sum actually realized by the sale thereof.

6. A bill shall be submitted by the contractor each month, duly supported by detailed measurements, which will be certified by the Engineer-in-charge and the bill adjusted as far as possible before the expiry of fifteen days from the presentation of the bill.
7. All intermediate payment shall be regarded as payments by way of advance against the final payment only and shall not preclude the requiring of bad, unsound and imperfect or

unskilled work to be removed and taken away and reconstructed, or re-erected or be considered as an admission of the due performance of the contract, or any part thereof in any respect or the accruing of any claim not shall it conclude, determine, of affect in any way the powers of the Institute under these conditions or any of them as to the final settlement and adjustment of the accounts or in any other way very or affect the contract.
8. The final bill shall be submitted by the contractor within one month of the date of completion of the work or of the date of certificate of completion furnished by the Engineer-in-Charge and payment shall be made within 6 (Six) weeks of the date of certificate of completion furnished by the Engineer-in-Charge.
9. The contractor shall provide all materials and labour of every description except the materials shown in the attached schedule which will be supplied by the Institute at the rates mentioned therein and all tools, plants and transport necessary for the proper carrying on execution and completion of the work to the satisfaction of the Institution.
10. The contractor shall provide all materials and labour of every description except the materials shown in the attached schedule which will be supplied by the Institute at the rates mentioned therein and all tools, plants and transport necessary for the proper carrying on execution and completion of the work to the satisfaction of the Institution.
11. For materials supplied by the Institute to the contractor, the cost thereof will be progressively deducted from the contractor's bill in accordance with the quantities consumed in the work and item or items relating to these being included in the bill.
12. All materials supplied to the contractor by the Institute shall remain the absolute property of the Institute, and shall not be removed on any account from, the site of the work land shall be at all times open to inspection by the Engineer -in-Charge.
13. The Contractor shall treat all materials obtained during dismantling a structure, excavation of the site for a work etc. as Institute's property and such materials shall be disposed of to the best advantage of the institute according to instruction issued in writing by the Registrar.

14. The tender rates for the work shall be taken to be firm. The contractor shall not be entitled to any price variation or escalation of materials and labour on any account whatsoever.
15. The contractor shall not sublet or assign any portion of the work to others without written consent of the Institute.
16. The contractor shall, on the request of the Engineer-in-Charge immediately remove from the works any person employed there on by him, who may, in the opinion of the Engineer- in-Charge, be incompetent or misconducts himself.
17. The contractor shall, during the course of execution, be responsible for all damage to property and for any injury or loss caused to the work or workmen, to persons, animals, or things and also for any damage caused by fire, burglary, theft, earthquake, civil connection and other extraneous causes, He shall effect any insurance necessary and indemnify the Institute against any damage to any building, road, road curb, fence, enclosure, water pipe, cable drains, electric or telephone post or lines, trees, grassland or cultivated ground, contiguous to the premises on which the work on any part of it is being executed.
18. The security deposit, mentioned in clause 1 of this contract, will be refund after the expiry of warranty period.
19. The contractor will remain responsible for any defect arising out of defective or improper materials or workmanship in the work for a period of twelve months from the date of issue final certificate by the Engineer-in-Charge to contractor shall make the same good at his own expense or in default Engineer-in-Charge may cause the same to be made good by other workman and deduct the expense from any sum that may be there or at any time thereafter may become due to the contractor or from security deposit.
20. The contractor will have to confirm to the provisions of all local bye-laws acts relating to work and to the regulations and bye-laws etc. of the Govt. and local authorities and of any company with whose system the installations are proposed to be connected.
21. The contractor shall set out the work to the satisfaction of the Engineer-in-Charge and amount at his own cost to the satisfaction of the Engineer-in-Charge any errors which may arise through inaccurate setting out and in proper execution of the work.
22. The contractor shall keep a competent, responsible and approved foreman on the works, who shall be available at all times at the site of work and who will be responsible for carrying out the true meaning of the drawings and specifications schedule of quantities and any direction and instruction given to in writing by the Engineer-in-Charge.

23. The contractor shall make his own arrangements for storage for tools, materials etc. including accommodation for their labours. The Institute, if possible, will provide space for storage of tools and materials free of charge. The Institute, however, does not guarantee providing such space and if it is not possible to provide such space, the contractor will have to make his own arrange at his own cost. No space will be provide in the Institute area for accommodation of labour and the contractor will have to make his own arrangement at his own cost.
24. Except where otherwise provided in the contract all questions and disputes relating to the meaning of the specifications, designs, drawings, and instructions herein before mentioned and as to the quality of workmanship or materials used on the works or as to any other question, claim, right matter or thing whatsoever in any way arising out of or relating to the contract, designs, drawings, specifications, estimates, instructions, orders or these conditions or otherwise concerning the works or the execution or failure to execute the same weather arising during the progress of the work or after the completion or abandonment thereof shall be referred to the sole arbitration of the person appointed by the Director, Bose Institute. The arbitrator to whom the matter is originally referred being unable to act for any reason, the said director shall appoint another person to act as arbitrator in accordance with the terms of the contract. Such person shall be entitled to proceed with reference from the stage at which it was left by his predecessor.
25. The contractor will remain responsible for the safety and security of his own materials procured/ stacked at site for execution of works. Institute will not be responsible for any loss or theft. No complain will be entertained in this respect.
27. Challan of all materials should be proper gate in form the security which will be required at the time of submission of bill. The contractor is liable to follow the security norms of the institute.
28. No Minor labour will be engaged during the construction work. Labour license to be collected from the labour department Govt. of India. 1% labour cess will be deducted from the bill at the time of payment.

It is also a term of the contract that if the contractor does not make any demand for arbitration in respect of any claim in writing within 60 (Sixty) days of receiving information from the Institute that the final bill is ready for payment, the claim of the contractor will be deemed to have been waive and absolutely barred and the Institute shall be discharged and released of all liabilities under the contractor in respect of these claims.

TENDER NOTICE

CENTRE FOR ASTROPARTICLE PHYSICS AND SPACE SCIENCE (CAPSS) BOSE INSTITUTE, KOLKATA

SUPPLY & INSTALLATION OF AN OBSERVATORY DOME

Sealed Quotations are invited for fabrication & erection of a 6.5 meter diameter Motorized Hemispherical Observatory Dome with 1.0 meter slit opening to be located at the Bose Institute Experimental Farm, Falta, 24 Parganas (South), West Bengal [Coordinate 22°18'2.3"N , 88°6'18.46"E]. The relevant civil structure would be executed by the Institute. The Dome has to be commissioned over a cylindrical civil structure of height 8.5 meter. The technical proposal should contain the following major components for the observatory dome:

SL No	Items	Particulars
01.	Arches, Purlins & Main Rails	MS/CRCA/HR Pipes/Tubes & U-Channels
02.	Dome & Shutter Drive Systems - Motorised Movements	MS Wheel Assemblies & Mechanisms
03.	Dome cover/Cladding	Al-Zn Alloy coated Steel- Riveted Sheeting with leak proofing
04.	Corrosion Resistant & Weather-Proof Painting on Interior Surfaces	As per standards on applied areas
05.	Electrical Controls & Switchgear with Safety Relays	PC/ABS Panels with L&T / Bosch /Schneider Contactors & Safety Mechanisms
06.	Anti-Vibration Pier for Telescope with Adapter Unit	MS Structure with Anti Vibration System to be conformed with Celestron CGEM – DX Mount
07	Special condition	Agency/Bidder has to coordinate with the Civil construction work time to time to ensure the proper placement of Dome at top

Terms & Conditions:

1. The bidder should give all technical details, major specifications and any other relevant/additional details for each of the above components.
2. The bidder should submit a drawing of the Dome with major overall dimensions. Also the total mechanical load and power calculations have to be submitted.
3. The bidder should specify the Scope covered, Schedule of Completion, Warranty and other terms & conditions.
4. A) The bidder must have successfully completed a minimum of five such Hemispherical Revolving Motorized Observatory Domes in past for sizes not less than 4.0 meter dia including Manufacturing, Fabrication, Site-Erection and Commissioning on turnkey basis.
B) The bidder should give documentary evidence of having successfully executed and completed the fabrication and erection of such Observatory Domes.
C) The bidder should have in-house production facility to execute such projects and should allow inspection of the same by a competent body from the Institute if required at the cost of the Institute
D) If required by the Institute, the bidder should be able to arrange a site visit to demonstrate the functioning of any one of the completed Observatory Dome.

(S.Panigrahi)

Registrar, Bose Institute

**BOSE INSTITUTE
KOLKATA**

**Research Institute funded by DST, Govt. of India
P-1/12, C.I.T Scheme VII-M, Kolkata – 700 054
CENTRE FOR ASTROPARTICLE PHYSICS AND SPACE SCIENCE (CAPPS)
BOSE INSTITUTE**

PUBLIC TENDER NOTICE NO: BI/T/OVR/P/04/2014 dated 24.03.2014

The Registrar, Bose Institute invites sealed Quotations/ bids both technical and commercial bid separately in two parts, Part – I (Technical) & Part – II (Commercial) in a sealed cover from reputed firms for following / specification. The firm (S) interested in offering bids should have executed similar items / works.

SL No	Description	Qty	EMD (Rs)	Tender Fee (non-refundable) Rs
1.	Fabrication and Installation of 6.5 meter Dome and Enclosure Structure		2% of the quoted amount	500/-

Note: The tender documents with specification detail are available on Bose Institute website <http://www.boseinst.ernet.in> . Hence the interested tenderers may at their option down load the same from website (as no hard copies of tender documents is/are provided from office) and submitted their offer along with EMD & tender fee (non – refundable) prescribed therein, only in the form of Demand Draft drawn in favour of Bose Institute, Kolkata. However, your offer (both Technical & Commercial bids) with bids should be super - scribed in an envelope mentioning the tender notice no, date of opening and submit the bids in a seal envelope addressed in favour of **“Registrar, Bose Institute, P1/12, C.I.T. Scheme VII – M, Kankurgachi, Kolkata – 700054”**.

- The firms who fulfill the following requirement shall be eligible to submit their bids. Joint ventures are not acceptable.
 - (a) Tendering Company shall be professionally managed and equipped with facility for the supply and maintenance of tendered items.
 - (b) The tenderers should have completed, in the last 3 financial years (i.e. current years and two previous financial years) at least one similar single work for a minimum value of 60% of quoted amount

- (c) The total contract amount received during the last 3 years, and the current financial year should be minimum of 60% of quoted amount. The tenderer should submit Audited balance sheet duly certified by the chartered accountant of this effect. They should also submit banker solvency certificated two minimum of Rs 20.00 lakhs.
- (d) The private body contractor shall be required to produce the TDS certificated indicating the income tax deduction by the client for execution of similar items completed individually of value not less than 60% of quoted amount.
- Both technical / commercial / price bid supported by the above information should be submitted in seal envelope duly super-scribed with the name of work /item. The completed bid will be received by the Institute upto 15:00 hrs latest by 26.04.2014.
 - If any information furnished by the tenderers is found incorrect at a later stage the firm shall be liable to debarred form tendering and taking up the work in B.I. The Institute reserves right to verify the particulars furnish by the tenderers.
 - Interested tenderer may contact Dr A. Mitra, Phone no: 033-2569-3106 or Mr. T. Basu Ph no: 9831109376 to discuss technical specification and if any with prior permission on or before 15.04.2014 before submitting bid.
 - The firm should submit the bid super-scribed along with the tender fee of prescribe amount upto 15:00 hrs latest by 26.04.2014. The technical bid will be open in presence of bidders or their authorized representative at 16:00 hrs on 26.04.2014.
 - Commercial bid of those who are success full in technical bid will be opened later. The date will be intimated to successful bidders.
 - Incomplete bids are liable for rejection.
 - Late / delay offer bill not be considered.
 - B.I. is not responsible for any delay / loss of documents in transit.
 - No bid will be considered if prescribed tender fee and EMD is not found with technical bid.
 - The offer should be valid for minimum period of 120days form the date of opening of the bid.
 - Both EMD and tender fee in the D.D. in favour of BOSE INSTITUTE, KOLKATA payable at Kolkata should be on nationalized bank sent along with the technical bid only.
 - No price escalation will we considered after opening / awarding the tender.
 - B.I. reserves right to reject any or all tenders without assigning any reasons what so ever.

Registrar, Bose Institute

**BOSE INSTITUTE
KOLKATA**

**Research Institute funded by DST, Govt. of India
P-1/12, C.I.T Scheme VII-M, Kolkata - 700 054
CENTRE FOR ASTROPARTICLE PHYSICS AND SPACE SCIENCE (CAPSS)
BOSE INSTITUTE**

To
The Registrar
Bose Institute
Kolkata: 700054.

Sir,

I/We hereby offer to supply and install the dome including all accessories indicating below at the price here under quoted and agree to hold this offer open till I/We shall be bound to supply and install the dome hereby offered upon the issue of the work order communicating to acceptance here of on or before the expire of last mention date.

SL No	Description of item	Qty	Unit	Rate	Dely.	Period.
1.	Fabrication and installation including commissioning the dome over the observatory tower with 1m slit opening					

Place at which the delivery is require : Falta Experimental Farm, Falta 24 Parganas (South) West Bengal. Pin no: 743504

Date by which the supply is required : 12 (twelve) months from the date of issue of work order

6.5 meter Observatory Dome

Bose Institute Kolkata

REQUEST FOR PROPOSAL

For

**Manufacture and erection of 6.5 meter Telescope enclosure Dome structure at
Falta Experimental Farm, Falta 24 Parganas (South) West Bengal**

Bose Institute

P-1/12, C.I.T Scheme VII-M, Kangurgachi

Kolkata - 700 054

Date : 24.03.2014

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Background Information

Bose Institute, Kolkata is setting up a 6.5m observatory dome at Falta Expt. Farm, Falta 24 Parganas (South) West Bengal, which is located 48 km form Kolkata, West Bengal. The civil work on the project is under progress and enclosure (building structure and dome) has to be fabricated and installed at Falta. The fabrication of dome and enclosure is planned to complete by May 2015.

Project site information

The project site is at Falta Experimental Farm 24 Parganas (South) West Bengal Pin 343504, Ph No: 03174-225652

Nearest Railway Station: New Alipore / Majherhat, distance from the railway station site is about 40km.

Vendor may visit the observatory to evaluate site requirement after prior permission from the Institute. Electricity and water supply will be arranged by the agency from his own side. Institute may provide electricity and water supply against the cost to be borne by the agency provided the same may be available from the Institute.

Scope of Work

The vendor shall be responsible for executing the fabrication work of 6.5m observatory dome including enclosure conforming to the design and specification detail given by them / him.

Dome

This includes dome structure, dome cladding, ring beams, circular rails, drive and wheel assemblies, guide roller anti lift assemblies, dome drive automation, dome shutter drive wheel assemblies, encoder assembly, lightning assembly, cable lying & routing arrangement, power supply method for mounting arrangement methodology of installation dome drive and shutter drive assembly, material handling facility including dome hoist and painting / surface treatment etc.

Installation with necessary accessories

Steel flooring at 7m level and steel staircase from 4m level to 7m level with safety guard railing. The flooring should withstand the load of 1ton minimum on the area 20Sq.m. The flooring will rest on Z angle from circular beam. Necessary slot opening will be provided for entry into the floor level with safety guard.

Inspection Assembly and Testing

Inspection assembly and testing of dome structure, dome drive assembly and enclosure building structure etc at manufacturer's factory premises is included in the

Scope of vendor. Expert team from Bose Institute will visit the manufacturer's workshop as and when required to ensure the manufacturing is processed as per design and drawing and technical specifications, quality of workmanship and dimensional accuracy etc. are mentioned as per the given design and drawing. If some unforeseen technical problem arises during fabrication or installation time the expert team will have to study the same and sorted out such problem.

Safety measure

Dome shall include safety system to prevent personal injuries, all elements of safety such as over speed, over current protection, dome and shutter drive interlock with safety switch dome crane safety etc shall be taken into account during testing of dome.

Co-ordination with Civil contractor

After placement of order to vendor for manufacturing supply and erection, the vendor will approach to Bose Institute for their quarries for technical and commercial matter all technical quarries and commercial matter will be resolved by the Bose Institute expert team.

Suppliers Warranty

Vendor shall be fully responsible for manufacturing warranty of one year in respect of manufacturing, quality, functioning, of all complete scope of work covered by the offer.

Despatch clearance

After completion of dome and enclosure structure fabrication dome components including electrical accessories will be inspect by the expert team of Bose Institute and their satisfactory report dispatch clearance will be given to the vendor.

Eligibility criteria

The bidder must have successfully completed a minimum of five such Hemispherical Revolving Motorized Observatory Domes in past for sizes not less than 4.0 meter dia including Manufacturing, Fabrication, Site-Erection and Commissioning on turnkey basis.

Vendor must have adequate infrastructure, skilled manpower, inspection & testing equipment along with the desired working machines and equipment. Vendor must

enclose relevant information in the form of brochures, leaflets, manuals, work order etc. to demonstrate the require technical competence for this job. The list of equipments to be place at site during erection of enclosure should be submitted.

The vendors should be prepared to offer a plan for comprehensive onsite warranty for the manufactured / fabricated parts and assemble structure of the dome, dome and shutter drive assembly and items of enclosure.

Vendors must comply with all the above mentioned criteria. Non compliance of any of criteria may lead to rejection of the offer. Photocopies of relevant documents / certificates should be submitted as prove in support of the claims made. Bose Institute reserves right to verify / evaluate the claims made by the vendors independently.

Inspection of vendors premises

As a part of evlolution criteria Bose Institute will inspect the work of the manufacturer before placing order through its Staff / Expert team for authentication of the verious thecnical parameters claimed by the vendor's facotry /site. However, not allowing full co -operation in this regard will disqualify the vendor and his offer will be rejected summarily.

Manufacurer will furnish the inspection reports of all materials, parts, sub - assemblies & assemblies to Bose Institute during the course of manufacturing.

Proving necessaries facilities, instruments and tooling for quality survelliance and inspection components assemblies and aligment during inspection.

Payment Terms

Payment for the work will be made according to the following schedule with payment stage link to mile stone in the contractor's / vendor bill upon each completion of each mile stone will be past for payment only after satisfactorily inspection report from the expert team.

50% advance payment on receipt and acceptance of work order. The advance payment will be made against the submission of bank guarantee for the equivalent value with validity till the completion of the project and executing an agreement with Institute over a Rs 100/- Non- Judicial Stamp paper duly signed by both parties the balance 50% will be release in three stages on pro-rate basis duly certify indenting Scientist / expert team.

The detail stages are as follows:-

1. 20% of the value after received the total materials at site (Falta Expt. Farm, Falta 24, Parganas (South) West Bengal.
2. 10% of the value on completion of erection of dome and enclosure at site.
3. 20% of the value on completion of testing and commissioning of the dome and satisfactory performance and acceptance by our expert team.

Time of completion

The entire work shall be completed within 12 (Twelve) month after 10 ten day form the date of receiving of the work order. The time schedule shall be the essence of contract. The vendor shall prepare plan of work in consultantion with expert team of Bose Institute to complete the job as per schedule Bose Institute reserve right to inpose a paynalty clasue for delay in completion of work which as been mentioned in the General Rules & Direction for the guidance of contractor.

Material approval

Material to be procured by the vendor, both vendor's premises as well as at the site shall be approved by the Bose Institute expert team before have use in the work in case during executing of work any material being used in the work is found to be not as per specification, Bose Institute expert team may notify the vendor and such material is to be replaced by the approved material at the vendor cost. All the necessary third party test certificate, test report etc has be produced form time to time. If any material is found to be not tested according to ISI standerds or equivalent, the same shall be tested at approved / reputed laboratory by the vendor at his own cost.

Penalty and termination of contract

In the event of supplier failure to fulfill any of the terms & conditions of this contract including its failure to complete the contract within the stipulated period the Bose Institute shall prejudice to other remedies available to it under the law enforced in the state be competent to impose all the or any of the following penalties of the vendor, in addition forfeiture of security deposit in full on in apart as the Bose

Institute may deem fit: termination of the contractor after 30 days clear notice to the vendor, if no proper response from the vendor.

Description of the structure including the top of the dome

The telescope house is a cylindrical structure which will be covered on the top by a hemispherical steel dome mechanically motor operated with 1m slit opening. The ground floor and 1st floor will be constructed with R.C.C. frame structure with brick wall etc. the entire structure will rest on pile and pile cap. Outer diameter of the structure is 6.5m with clear space inside 6m. The total height of the structure i.e. including dome height is about 11m. The telescope is mounted on a RCC pier is raising from the ground level to 7m above the pier in located at the centre of the enclosure.

Submission of detail design and drawing

Vendors will submit detail drawing and design of the dome structure including the floor at 7m level and staircase from 4m to 7m. Consideration of design of dome should check by seismic and wind load.

Following drawings are to be submitted with technical bid:-

1. Arrangement of staircase.
2. Floor at 7m level.
3. Dome general assembly.
4. Shutter assembly.
5. Shutter wheel assembly.
6. Shutter drive assembly.
7. Dome drive assembly
8. Encoder assembly
9. Dome wheel assembly
10. Dome guide roller assembly
11. Dome guide roller Assy-Anti lift
12. Lightning assembly
13. Dome cladding
14. Dome Structure

Staircase

Staircases are provided by taking support of the beam and column to reach floor at 7m level. One of the cannels and column for the staircase starting form 4m level are welded to the plates insert in the slab at 4m level

Floor

Floor at 7m level are made of thick chequered steel plate to with stand the minimum load of 1 ton over area of 20Sqm.

Railing

Railing around the handle of stair from 4m level to 7m level is included in the scope of this tender. Vertical pipes of the railing shall be fixed to the slab / steps with anchor bolts.

Drive motor and control system.

The following parts systems including electrical and electronics work are part of the scope of the vendor.

- (a) Gear box and coupling for the shutter drive.
- (b) Limit switch, actuators and suitable bracket for mounting and power and control cabling to the motor / control panel / limit switches as per site requirement.

Structure

Rotating dome is supported by a rail fixed on the top of the ring beam of the structure.

Gear box

Gear box, coupling and motor (permanent magnet DC / AC servo motor/ Equivalent), and speed control system / panel and cabling to form motor and control panel for dome drives.

Incremental Encoder

Incremental Encoder, coupling and display system for monitoring the speed of rotating the dome.

Note below are some important aspect of assembly.

- All competent shall be clean completely free of rust preventive, oil grease etc and wiped dry of any cleaning agent used before assembling the components.
- Wherever holes are to be drilled or tapped to match with matting components at the time assembly the requirement of alignment and fit to the matting components shall be ensured will marking / transferring holes for drilling.
- Spacers and bearing covers locating bearing shall be ground after trial assembly to determine the exact extent of machining. When these components are reassemble the bearing / rotating parts shall rotate free and smooth with no axial plate.
- Screws shall be tightened to the specified torque at the time of final assembly.
- Movement of the shutter wheel assemblies on the top bottom rail shall be verified at works

Extension of delivery time

As soon as it is apparent that schedule dates cannot be adhered to and application shall be sent by the vendor to the Bose Institute. If failure on the part of the vendor to deliver the material in proper time shall arisen from any cause the Bose Institute may admit as reasonable ground for an extension time such additional time will be considered.

Recovery of some dues

Whenever there is breach of contract whether liquidated or not, money arising out of or under this contract the Bose Institute shall be entitled to recover such some by appropriating, in part or full, the security deposit by the contractor, if a security deposit is taken against the contract. In the event of security being insufficient if no

security as being taken from the contractor, the amount will be recoverable from his bank guarantee.

Packing forwarding and insurance

Contractor will be held responsible for properly packed for transportation by rail road, to with stand transit hazard and ensure safe arrival at destination. The packing and marking of packing shall be done by and at the expenses of the contractor. The Bose Institute will not pay separately for transit insurance, all risks in transit being exclusively of the contractor.

Test certificate

Where ever test certificate should be sent along with the relevant dispatch document.

Guarantee replacement

The contractor shall guarantee that supplied material shall comply fully with the specification laid down, for material workmanship and performance.

A period of 12 (twelve)months guarantee as to be submitted by the vendor, if any defect discover within this period the defect shall be rectify by replacing the material at own cost and whenever required in this period on call services have to be provided by the vendor at free of cost