



INDIAN INSTITUTE OF ASTROPHYSICS
IIND BLOCK, SARJAPUR ROAD, KORAMANGALA,
BANGALORE-560 034

Phone: 25530672-76
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PUBLIC TENDER NOTICE NO:REQ/COMP/027/10-11 DATED 27TH JULY 2010

The Director, Indian Institute of Astrophysics invites Quotations/Bids from reputed firms for Design, supply, installation, testing and commissioning of a new computer data center powered by UPS of adequate capacity with necessary raised flooring, false ceiling, air conditioning, fire alarm system etc. at IIA, Koramangala, Bangalore – 560034. The firm(s) interested in offering bids should have executed similar items/works.

Sl.No	Description In Brief	Quantity	E.M.D (refundable) Rs.	Tender Fee (non-refundable) Rs.
1	Design, Supply, Installation, Testing and Commissioning of Computer/ Data Centre at IIA, Koramangala, as a turnkey project inclusive of relocation of computer equipments & accessories from existing computer rooms to the proposed datacenter at Ground floor. A concept drawing and specifications are in Annexure II.	One	2,40,000/-	300/-

Note:

The Tender documents with Specification details are available on IIA website www.iiap.res.in/tenders.htm. Hence the interested tenderers may at their option down load the same from our website (as no hard copies of Tender documents is/are provided from this office) and submit their offers along with EMD (refundable) & Tender fee (non-refundable) prescribed therein, only in the form of Demand Draft drawn in favour of Director, IIA). However, your offers (both Technical & Commercial/price bids) should be superscribed in separate envelopes mentioning the tender notice no., Date of opening, and submit both the Bids in a sealed envelopes addressed in favour of Director, Indian Institute of Astrophysics, Bangalore – 560 034.

1)The firms who fulfill the following requirements 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) Tenderer should have completed, in the last 3 financial years (i.e., current year and two previous financial years) at least five similar single work with atleast one TIER 4 Data Center built. The company should be in similar business for at least past 5 years with minimum orders executed 10 Crores INR every year for the last 3 years. The same should be substantiated with relevant purchase order copies.
- (c) The total contract amount received during the last 3 financial years, and the current financial year should be a minimum of 150% of the above mentioned value.
- (d) The company should have required experience and skilled manpower to setup the complete recommended solution.
- 2) Both Technical/Commercial/price Bids supported by the above information should be submitted in sealed envelope duly superscribed with the name of work. The completed Bids will be received by this office **upto 1500 Hrs. on 27th August 2010.**
- 3) If any information furnished by the tenderers is found incorrect at a later stage, the firm shall be liable to be debarred from tendering and taking up of work in IIA. The Institute reserves the right to verify the particulars furnished by the tenderers.
- 4) There will be a **Pre-bid** meeting on **10th August 2010 at 1100 hours** at IIAP, 2nd Block, Koramangala, Bangalore 560034 for technical discussions before submitting Bids.
- 5) The firms should submit both Technical and Commercial/Price bids separately superscribed along with EMD/Tender fee of prescribed amount **upto 1500 Hrs. Latest by 27th August 2010** The Technical Bids will be opened in presence of the bidders or their authorized representatives at **1530 Hrs. on 27th August 2010.**
- 6) Incomplete Technical Bids are liable for rejection. Commercial/price bids will be considered only for the Qualified Technical Bidders.
- 7) Late & / delayed offer will not be considered.
- 8) IIA is not responsible for any delay / loss of documents in transit.
- 9) The date and time for the opening of commercial bids of those firms technically qualified will be intimated after technical evaluation of the tender.
- 10) IIA reserves the right to reject any or all tenders without assigning any reasons.

**Administrative Officer
IIA, Bangalore-34.**

Annexure-I
IMPORTANT: TWO PART TENDER INSTRUCTIONS

1) **It is proposed to have a two cover system for this tender.**

Part I: (a) Technical part (without price) is one cover.

Part II: (b) Commercial /Price part alone is another cover.

2) **TECHNICAL PART:**

Technical part should clearly indicate the technical details. A compliance Statement indicating whether the specifications are met is to be submitted with reasons for deviations if any. Complete with Drawings, in relevant to the offer are also to be enclosed to the technical part. Technical presentations will be required.

3) **COMMERCIAL PART (without price)**

Commercial part should indicate commercial terms like, time for completion of the project, delivery period and place of delivery, payment terms, validity, warranty/guarantee etc. and should be sent along with the price part. The Technical part should be kept in one cover along with EMD & Tender Fees superscribing tender number and due date and should be sealed.

4) **COMMERCIAL AND PRICE PART** alone should be kept in a separate cover superscribing tender number and due date.

5) The technical part in one cover and **Commercial and Price part** in another cover should be put in one large cover and should be superscribed with the tender number, due date and time of opening.

6) The cover should be sent to the following address:-**THE DIRECTOR, INDIAN INSTITUTE OF ASTROPHYSICS, IIND BLOCK, KORAMANGALA, BANGALORE – 560 034.**

7) The offer should be valid for a minimum period of 120 days from the due Date.

8) Offer shall be submitted in sealed cover only as said above.

9) No conditional discounts will be allowed.

10) EMD & Tender fee of prescribed value shall be sent along with the Technical Bids) tenders in the form of demand draft only in favour of “The Director, Indian Institute of Astrophysics., Bangalore” drawn from any Indian Nationalized / reputed Banks in India.

11) Tender shall be submitted as above without fail.

INDIAN INSTITUTE OF ASTROPHYSICS

IInd Block, Koramangala, Bangalore-560 034

Phone: 25530672-676

Fax: 25534043

Grams: ASTRON

No.REQ/COMP/027/10-11

Dated: 27th July 2010

M/s.

Dear Sirs,

The Director, Indian Institute of Astrophysics, Bangalore invites Sealed Tenders for the supply of Stores detailed in the Tender Form hereto annexed. The Tender Terms enclosed are also may be noted carefully. If you are in a position to quote for the supply in accordance with the requirement, please submit your quotation in the attached Tender Form also.

Your Tender (Technical, Commercial & price Bids) must reach this office on or before the date and time indicated in the Tender Schedule.

Thanking you,

Yours faithfully,

Encl: as above.

(P.Kumaresan)
Admn. Officer
For Director

INDIAN INSTITUTE OF ASTROPHYSICS
BANGALORE-560 034

PUBLIC TENDER DOCUMENT NO:REQ/COMP/027/10-11 DATED 27TH JULY 2010

TENDER FORM

FROM:

TO

THE DIRECTOR,
Indian Institute of Astrophysics,
Bangalore-560 034.

Sir,

I/We hereby offer to supply the stores indicated below at the price hereunder quoted and agree to hold this offer open till_____. I/We shall be bound to supply the store hereby offered upon the issue of the Purchase Order communicating to the acceptance thereof on or before the expiry of the last mentioned date. You are at liberty to accept any one or more of the items of such stores. I/We not withstanding that the offer in this tender has not been accepted in whole, shall be bound to supply such items and such portion or portions of one or more of the items as may be specified in the said Purchase Order communicating the acceptance.

Sl.No.	Description of the item(s)	Quantity	Unit	Rate	Dely. Period
	Design, Supply, Installation, Testing and Commissioning of Computer/Data Centre at IIA, Koramangala, as a turnkey project inclusive of relocation of computer equipments & accessories from existing computer rooms to the proposed datacenter at Ground floor. A concept drawing and specifications are in Annexure II.				

Place at which the Delivery is required: 2nd Block, Koramangala, Bangalore - 560034

Date by which the supplies are required: Within 4 months from the date of award of Purchase order.

2. I/We have understood the items of the tender annexed to the invitation to this Public Tender and have thoroughly examined the specifications/drawing and /or pattern quoted or referred to herein and/are fully aware of the nature of the job required and my/our offer is to Design, Supply, Installation, Testing and Commissioning of Computer/Data Centre at IIA, Koramangala, as a turnkey project inclusive of relocation of computer equipments & accessories from existing computer rooms to the proposed datacenter at Ground floor. A concept drawing and specifications are in Annexure II, strictly in accordance with the requirements subject to the terms and conditions contained in the Purchase Order, if communicated on the acceptance of this tender either in whole or in part.

Date:

Signature and seal of Tenderer

ANNEXURE - II

Request for Proposal

For

Design, Supply, Installation, Testing and Commissioning of Computer/Data Centre at IIA, Koramangala, as a turnkey project inclusive of relocation of computer equipments & accessories from existing computer rooms to the proposed datacenter at Ground floor.

AUGUMENTATION OF INFRASTRUCTURE FACILITIES

AT

INDIAN INSTITUTE OF ASTROPHYSICS,
Koramangala, Bangalore-34.

Dipankar Banerjee
IIA, Bangalore

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Instructions to tenderers

1.1 Introduction / Background:

Due to increased number of users, the existing computer center needs to be expanded, This proposal is to have a modern computer data center for the institute.

Considering the future expansion and the increased usage over time, it is proposed to have a new data center, which will host the computers present in the existing computer room along with switches and routers.

2.1 Technical specification:

2.1.1 General:

The scope of the contract includes design, Supply, installation, testing and commissioning of a new computer data center powered by UPS of adequate capacity with necessary raised flooring, false ceiling, air conditioning, fire alarm system etc.

2.1.2 Scope of the work:

The scope of the work includes civil, electrical, air-conditioning and other auxiliary facilities. The required space for the data center has to be created with raised flooring and false ceiling. The existing rooms have to be partitioned with aluminium frame work. The air-conditioning of required capacity has to be provided.

Three phase, 4 wire, 440v, and electrical distribution system with panel boards, MCBs etc have to be provided. Supply and installation of Light fixtures are required. True online UPS of 40 KW capacity, with N+1 Redundancy, Modular type, provision to scale to the maximum capacity of 80KW, having backup time of at least 15minutes. Fire alarm systems of approved make have to be provided. Approved make air-conditioners of 12.5 ton capacity with N+1 Redundancy have to be provided.

Apart from the above mentioned scope of works, the contractor has to execute the following jobs also.

1. All the computer equipments and accessories shall need to be relocated from the existing computer centre at first floor to the proposed datacenter at ground floor.
2. The main panels, network switches, router etc situated at fifth floor to be relocated to the proposed datacenter at ground floor.

3.1 Technical specifications of subsystems:

SL. No	DESCRIPTION	QTY	UNIT
3.1.1	Civil Works:		
3.1.1a	Anti-static vinyl flooring (flexible roll) in UPS & NOC Room - 2 mm thick of LG Make installed on smooth, hard & absolutely leveled sub-floor. Suitable adhesives shall be used for fixing the flooring on the sub-floor.	300	Sft
3.1.1b	Finishing the internal plastered surface with min. 20mm thk. Plaster of paris, applied in layers to achieve a level and perfectly smooth surface includes necessary scaffolding, curing etc.	750	Sft
3.1.1c	Painting of existing walls with 3 coats of acrylic emulsion on 2 coats of primer.	700	Sft
3.1.1d	Painting of existing walls with 2 coats of fire rated paint on 2 coats of primer.	720	Sft
3.1.1e	Construction of 4" (100mm) solid block (Server room) wall finished on both the sides with 3/4" plastering with CM 1:4 finished 2 coats of fire rated paint on 2 coats of primer.	120	Sft
13.1.1f	Removal of existing windows and carting away the debris	120	Sft
3.1.2	Partition:		
3.1.2a	Full height partition (4" /100mmthk) upto slab height made using 50mm x 25mm Aluminium framework finished with double layer of 15mm glass reinforced gypsum on either sides to achieve 2 hrs fire rating. Gypsum to be finished with 2 coats of primer, and then finished with putty made using chalk powder and finally finished with 2 coats of fire retardant paint which provides a fire rating of 2 hrs on each side. The fire retardant coating is to make the surface of wood flame proof to Class – I surface spread of flame to BS: 476 Part – 7 & IS: 12777 – 1989.	300	

	Full height partition (4" /100mmthk) upto slab height made using 50mm x 25mm Aluminium framework finished with double layer of 12mm gypsum on either sides. .Gypsum to be finished with 2 coats of primer, and then finished with putty made using chalk powder and finally finished with 3 coats of acrylic emulsion paint.	500	
3.1.2b	Providing and fixing of 5mm thick clear ceramic glazed partition held in position using hardwood beading of size 1/2" x 1" (12mm x 25mm)all around on both the sides finished with 2 coats of fire retardant paint of local make. The glass is tested upto 3 hrs for different sizes and can withstand thermal shock upto 800 deg centigrade. The fire retardant coating for beading is to make the surface of wood flame proof to Class – I surface spread of flame to BS: 476 Part – 7 & IS: 12777 – 1989. This is to have 2 hrs fire rating. Finalised vendor to furnish test certificates for the same.	30	Sft
3.1.3	Doors:		
3.1.3a	Door- Fixing of door on 2" x 3" (50mm x 75mm) beechwood frame, door made of 40mm thk blockboard shutter & finished laminate on both the sides. The door shall be partly glazed with 8mm glass with sandblasted etching as per detail with 1" (25mm) bevelling all around. Glass fixed with 3/4" x1" (19mm x 25mm) beechwood beading both sides all around.Door to have necessary lock, door closer, hinges as per design & detail.Door to be provided with pelmet arm type door closer from Sevax. Make of handle: Dorset.Size: 4'4" x 7'2"- 2 Nos	62	Sft
3.1.3b	Fire Resistant Doors (120 minutes).		
	STEEL FIRE DOOR		

	4'4" x 7'2" (1300mm x 2125mm) - 1 No	31	Sft
	Provision is to be made in the shutter/frame for access control cable/electric mortise lock.		
	Door frames and leaves made of Galvanised steel & Stainless steel 304 grade.		
	Door leaves constructed from 1.25mm thk. Galvanised steel sheet press formed to provide a 46mm thk. Fully flush, double skin door shell with lock seam joints at stile edges. Internal reinforcements are provided at top, bottom & stile edges for fire rating. The internal construction of the door is a specially designed Honey comb structure with reinforcements at top, bottom & stile surrounds. The internal construction of the door varies with the degree of fire rating as tested. For doors having overall height in the excess of 2300mm the shutters shall essentially have double latching.		
	Door frames produced from 1.6mm thick galvanised steel sheet press formed to double rebate profile of size 143 x 57 mm (+/- 0.3mm) with a maximum bending radius of 1.4mm. The door frames may be built into the brick or block walls using corrugated "TEE" anchors not welded to the frame (first fix). Frames may be fixed on plastered openings with the help of metallic expansion shield with counter sunk screw (second fix). Door frames are supplied to knock down form with butt joints for bolt assembly at site.		
	Fire Rated vision glass with 6mm thk. Clear glass can be provided for a maximum of 2 hrs fire rating. The vision glass can be provided in 380mm dia or square/rectangular in various dimensions such as 200mm x 300mm, 300mm x 300mm etc.		
	The door frames and door shutters are primed with Zinc-phosphate stoving primer. Various finishes in synthetic stoving enamel, acrylic stoving paint or polyurethane can be provided on request.		
	The Fire Doors are to be fully insulated and have been tested as per IS: 3809-1979, ISO: 834-1975, IS: 3614 (PART-II)- 1992 and BS 476 (PART- 20 & 22)- 1987 under live fire conditions from Central Building Research Institute (CBRI), Roorkee, National Test House Calcutta for Stability, Integrity and Insulation for 2 Hrs. The wired glass is to comply with both BS 476: PART 22 and BS 6206 relating to fire resistant and impact performance.		
	Finalised vendor to submit the Test certificates for the above.		
	Cost to include all necessary ironmongery which is as follows:		
	Hinges provided are to be Stainless steel double ball bearing butt hinges of size 100mm x 76mm x 3mm thick conforming to BS 7352 standard for 'Strength and durability performance of metal hinges for side hanging applications and dimensional requirements for template drilled hinges' and are classified in class 8 ie, with 20000 annual operations.		
	The screws for hinges are SS 304 grade Philips head CSK screws of size M6x 15mm.		
	Latching shall be Mortise lock with independent escutcheon		
	D pull handles of SS shall be provided.		
	Door closures heavy duty rated shall be provided as required.		
3.1.4	Flooring:		
3.1.4a	RAISED FLOORING		
	USF 1200 EDGE SUPPORT RIGID GRID	400	Sft

	SYSTEM- FINISHED FLOOR HEIGHT OF 300MM HIGH		
	Providing and fixing Raised Access Flooring system 300mm high finished with Anti-static laminate in SERVER ROOM		
	Panel		
	UNITILE SF 1200 Access Floor panel manufactured by M/s United Access Floors Pvt. Ltd. is all steel welded construction with an enclosed bottom pan with uniform pattern of modular pockets of 64 hemispherical cones. The top and bottom plates are fused together by resistant welding at 104 spots. The depth of the Laminated panel will be 36 MM. The panel is epoxy coated for protection from corrosion and cavity formed by the top and bottom plate is filled with non-combustible cementitious compound to support no less than 85% of the top plate of the panel.		
	The panel is to withstand a Concentrated Load of 560 kgs applied on area 25mm x 25mm in the center of the panel which is placed on four steel blocks without deflecting more than 2.5mm and without setting permanently more than 0.20mm.		
	The UNITILE panel will withstand an Uniformly Distributed Load (UDL) minimum 1680 kg and shall deflect not more than 2mm on applying of loads and on removal it should not have a permanent deflection of more than 0.20mm.		
	Finish for panel		
	The access floor panel if not required to be supplied BARE shall be laminated with finishes as required which shall be 1.5mm thick and same shall be factory laminated on an automatic lamination line.		
	The finish shall be either High Pressure Laminate of required shade and color and the Laminate shall be protected on its edges with a PVC beading with mitered corners which shall factory fit.		
	Pedestals		
	Pedestal installed to support the panel shall be suitable to achieve a minimum finished floor height of 100mm to a maximum of 600mm from the existing floor level. Pedestal design shall confirm speedy assembly and removal for relocation and maintenance. Pedestal base to be permanently secured to position on the sub floor. Pedestal assembly shall provide for easy adjustment of leveling and accurately align panels to ensure lateral restraint. Pedestals shall support an axial load of 2000kgs. Without permanent deflection and an ultimate load of 3500kgs. The understructure system shall be all steel type galvanized.		
	Stringers		
	The stringer is hot dipped galvanized steel cold roll construction specially designed to stabilize lateral stability and to support the panels on all sides for alignment. The channels have a counter sunk hole at both ends to accommodate bolting of the same to the pedestal head assembly.		
	The Raised flooring is to have passed CLASS O as per BS 476 PART 6 for Fire propagation index and CLASS I as per BS 476 PART 7 for surface spread of flame. Please note that to meet CLASS O fire category as per 1991 Building regulations total index of Performance (I) should be less than 12 and sub Index		

	(I1) should be less than 6.		
	Finalised vendor to submit the test certificates for the above.		
3.1.4b	Providing and laying of thermal insulation for flooring and ceiling using nitrile rubber based material in server room.	800	Sft
3.1.5	False Ceiling:		
3.1.5a	Armstrong suspended ceiling system which includes of hot dipped Galvanised polyster wall moulding of size 0.457mm thk having equal flanges of 22mm along the perimeter of the ceiling. Screw fixed to brick wall with the help of nylon screws. The suspension of main runner (size 0.33mm thk) is having a flange (24mm) & web (38mm) at every 600mm c/c using 4mm GI rod with adjustable j bolts clips suspended from the soffit. For laying 600mm x 1200mm tile - clip rotary double stitched Armstrong 600mm cross of size 0.254mm thk having a flange of 24mm & width of 30mm on to the main runner at every 600mm c/c. Laying of Armstrong ceiling tile (Prima fine fissured tegular edge) of size 600mm x 600mm on to the grid completely.	700	Sft
3.1.6	Miscellaneous:		
3.1.6a	DB Boxing made of 19mm comm b/b finished with laminate externally and internally with openable shutters as per design and detail.	30	Sft
3.1.6b	Steps made using 19mm B/B from 00mm to 450mm LVL of Size: 1200mm x 150mm finished with vinyl.	2	Nos
3.1.6c	Table top made of 3/4" B/B finished with laminate with 1 1/2" x 1 1/2" beechwood moulding. The table supported on 19mm B/ b supports finished with laminate per design & detail. Size: 4'0" x 2'0".	3	Nos

3.1.6d	Providing Medium - back chairs (height being about 875mm), nylon twin castors with five prong base (Spider base). Chairs to have synchro tilt mechanism. The chairs to have ' Suspa' gas Lift with fixed PU arms with specially designed twin wheeled castors made of 100% nylon which are abrasive resistant and free movement on any floorings.The tilt mechanism is of cold rolled carbon steel sheets 18-513-1963 alluminum dia cast in LM-24 material confirming to US-117-1975. Tension spring made out of grade II material confirming to IS 4454, the mechanism is lockable in one position.The backseat to be made of steel tubular structure backed by 55-60 density moulded foam. Seat and backrest is to be made using moulded polyurethane cushion finished with fabric.The basic cost of fabric to be 150 per meter.	3	Nos
Sl.No.	Description	DC Qty	Unit
4.1	Part-A- Supply and Installation of it Panels:		
4.1.1	Panel Fabrication Details:		
	Supply, Installation, Testing and Commissioning of 3 Phase, 4 wires, 415 V, 0.8 P.F, 50 Hz. panels. The fabrication shall be made with 14SWG cold rolled sheet with M/C pressing. The surface shall be rigorously treated for derusting in 7tank process with dephosphating and painting with at least 2 coats of approved paint. The panel shall be totally enclosed metal clad type with double gasketing with rubber / resin lining. The panel shall be off white painted inside and shall be having control directory pasted inside the panel. The panel shall be mounted on existing trench and shall have cable entry provision from the top and bottom with suitable alley as the case may be. The panel shall be tested for the same KA rating of the relevant highest rating ACB / MCCB All components shall be from ISO-9001 companies and shall have relevant IS/IEC approvals without fail. (Fabrication, drawing and list of components and panel detail shall be got approved by consultants before fabrication). The panel shall be fully interlocked as required. The panel shall include base frame channel support. (The Single Line Diagram may be closely being followed).		
	Note: 1.		
	1. The Panel shall be fully as per the requirement of Electrical Inspectorate/ EB authorities.		
	2. Auxiliary contactors to be provided along with auto-manual switch where ever		

	required.
	3. All Breakers both Incoming & Outgoing shall have LED 'ON / OFF / TRIP' indications without fail.
	4. CTs shall be with dual ratio and cast resin type only.
	5. Cu bus earthing shall be provided for all panels.
	6. All doors to have double rubber gasket with shutter assembly & door seating frame.
	7. All AC feeders will have time delays of 0-60 Seconds.
	8. Any panel if more than 1.5m width should be made in parts each part not exceeding 1.5m
	9. The current density for ALU busbars shall be 0.8 only.
	10. The current density for CU busbars shall be 1.0 only.
	11. All UPS outgoing panels shall have neutral busbars double the size of phase.
	12. All MCCB's shall have plug setting from 40 to 100%.
	13. All Lighting / RP and Lift panels shall have ELR for incomer of Prok. Dvs. Make only.
	14. All test certificates must be provided immediately after commissioning.
	15. SAFETY CERTIFICATE FOR THE PANELS SHALL BE PRODUCED FROM CEIG.
	16. All panels shall be provided with potential free contacts to interface with IBMS / PLC
4.1.2	Main Power Panel:
4.1.2a	<u>INCOMER</u> :

	<p><u>MCCB:</u> Quantity: 1 No. Rating - 200 Amps. No. of poles - TPN KA rating - 35 kA. Type - Manual Releases - OC / SC. Indication - RYB/OFF/ON/TRIP/OC/SC. Other features - All standard.</p>		
	<p><u>Auxiliary Contactors:</u> Quantity - As required. Rating - 6 Amps. CT's - Measurement - 2 sets for each MCCB: Class I - 15VA burden. Type - Cast resin. Ratio - 200 / 5.</p>		
	<p><u>METERS:</u> 3 Phase 4 wire, 440 Volts, AC digital Voltmeter with selector switch. Range - 0-500V, 10Amps. AC digital Ammeter with CTs and selector switch. Range - 0 - 200Amps.</p>		
	<p><u>BUS - 250A.</u> Aluminium bus bar for phases and neutral. Bus Bar Supports - SMC Bus bar sleeves - Heat shrinkable colour coded. Internal & control wiring - To be with ferrules Heat resistant type, 1100V grade single core copper flexible.</p>		
4.1.2b	OUTGOINGS:		
	4 nos. 125 A TPN MCCB, 25 KA. 4 nos. 63 A TPN MCCB, 25 KA. 1 nos. 32 A TPN MCCB, 25 KA.	1	No.
4.1.2c	Supply & Installation of 32 A TPN MCB Isolator with enclosure, wall mounted, near PAC unit.	3	Nos.

5.1 Part - B - LT Cable Work:			
5.1.1.	Unarmoured Cables:		
5.1.1a	Supply, Installation, Testing & Commissioning of XLPE insulated sheathed steel tape armoured Aluminium UG cable with FRLS outer sheathing and extruded inner sheath 1.1 KV class. As per IS: 7098(1)1988.The cable shall be either laid on existing cable trays or in existing trench. The cable shall be tied with nylon ties on the cable tray. (Not to include the cost of cable trays/trench). 1. Supply means cables ready on site including transportation 2. Installation means erecting and miscellaneous components like nylon ties for laying and physical handling. 3. Client reserves the right to supply the cables directly.		
5.1.1b	Armoured Aluminium Cable: 3.5 Core, 95 Sqmm armoured Aluminium cable From MAIN building panel to main I/C panel = 1 x 1 R x 50 mtr (variable)	Supply	50 Mtr
5.1.1c	4 Core, 16 Sqmm armoured Aluminium cable.From Main power panel to PAC 1, 2 & 3 = 3 x 15mtr = 45 From Main power panel to LTG DB = 15mtr	Supply	60Mtr
5.1.2	Unarmoured Copper Cables:		
5.1.2a	1Core, 35 Sqmm unarmoured flexible Copper cable.		
	From MPP to UPS 1 & 2 = 3R x 20 mtr = 60 mtr From UPS to UPS O/G DB = 2 x 5R x 15 mtr = 100 mtr From main panel to maintenance bypass feeder for UPS = 2 x 5R x 20 mtr = 100 mtr For UPS neutral earthing - 2 x 2R x 100 mtr = 400 mtr	660	Mtr
5.1.3	End Terminations:		
5.1.3a	Supply, Installation, Testing & Commissioning of End terminations for following cables using double compression tinned brass glands with bronze lugs using hydraulic crimping tools complete. Armoured / Unarmoured Copper cables 3.5 Core, 95 Sqmm armoured Aluminium cable.	2	Nos
5.1.3b	1 Core, 35 Sqmm Copper cable	8	Nos
5.1.3c	4 Core, 16 Sqmm armoured Aluminium cable.	30	Nos
5.1.4	Cable Tray - Light Duty:		
	Supply and installation of hot dipped/ pre-galvanized GI as per IS 2629, prefabricated ladder type cable tray including cable support system. The rate shall include bends, angles, Ts and all accessories complete. Two runs of 25 x 6mm GI Earth strips must be included in cost of cable tray.		

5.1.4a	300mm wide, 50mm height, 2mm thick ladder type.	150	Mtr.
5.1.4b	150mm wide, 50mm height, 2mm thick ladder type.	50	Mtr.
6.1	Part- C: FDB and Internal Wiring:		
6.1.1.	Final Distribution Boards.		
6.1.1a	Supply, Installation, Testing and Commissioning of all MCB		
	<p><u>Distribution Boards (9KA)</u> made out of 16SWG MS sheet steel enclosure, IP 42, hinged MS cover/over flanged cover with cutouts for cutouts for operating the MCB knobs and comprising of phase busbars, neutrals and earth bus with tapped holes, bakelite phase barriers, pvc insulator shoes for incoming wire etc complete. DBs shall be mounted by grouting in to the wall/angle to brick wall as required. DBs shall be suitable for single phase loads. Or DBs shall be mounted on suitable M.S. angle and supporting flat. DBs shall include termination lugs etc., all complete. As per Electrical Inspectorate requirement</p> <p>The DBs shall have phase indicators lamps (Note: Local fabrication not permitted. Only factory made boxes shall be installed and all MCBs shall be with 9 KA rating)</p> <ol style="list-style-type: none"> 1. Supply means DBs ready on site including transportation 2. Installation means erecting and miscellaneous components like bolts & nuts for fixing and physical handling. 3. Client reserves the right to supply the DBs directly. 		
6.1.1b	Lighting / RP DB - LDB - 3 Phase 6Way: Incoming: 1 No. 63A TPN ELMCB. Outgoings: 5Nos. 16A SP MCB.	1	Nos
6.1.1c	UDB - (Server) 3 Phase 6 way Incoming: 1 No. 125A TPN MCB. Outgoings: 3Nos. 40A DP MCB. Outgoings: 18Nos. 16/32A DP RCBO (100mA)	2	Nos
6.1.2	Point Wiring:		
	<p>Supply, Installation, Testing and Commissioning of point wiring using (3 x 1.5) Sqmm 1100V grade stranded FRLS wires of approved make drawn in 25mm dia FRLS conduit of approved make including all conduit accessories such as bends, junction boxes etc., complete. The wiring shall be done in complete looping in system. The switches used shall be moulded fixed in factory made integral GI box units with clear earthing facility. The wiring shall be complete with ceiling roses, switches and all consumables. The colour of conduit for electrical works shall be black only.</p> <ol style="list-style-type: none"> 1. Supply means Wires, conduit, switch, sockets ready on site including transportation 2. Installation means erecting and miscellaneous components like screws, bolts & nuts for fixing and physical handling. 3. Client reserves the right to supply the Wires, conduit, switch directly. 		
6.1.2a	PRIMARY LIGHT POINT		

	I. Primary light point means wiring from first switch control to the first light out let. II. Not to include the incoming lighting circuit from MCB-DB to switch. III. But to include the sub circuit if it is drawn from adjacent switch box. IV. For drops from the ceiling flexible conduit shall be included.	5	Pts
6.1.2b	SECONDARY LIGHT POINT		
	I. Secondary light point means extension of light out let only from existing Primary point to be controlled by the existing switch of Primary point only. II. For drops from the ceiling flexible conduit shall be included.	10	Pts
6.1.2c	Lighting Circuit:		
	To wiring as in item no. 2.00 using (3 x 2.5) pvc insulated FRLS wire drawn in 25mm dia 2mm thick FRLS conduit as lighting circuit, being recond from the distribution board to first light control switch. (Looping will not be paid separately for next primary point)	120	Mtr
6.1.2d	Supply & Installation of 6/16A 5 pin socket with DP switch with indicator in appropriate make factory made GI boxes. (Excluding circuit) - For Raw power.	4	Nos.
6.1.2e	Supply & Installation of 3 Nos. 6A 3 pin uni socket with individual 6A SP switch with indicator for every desktops. - (Excluding circuit) - for UPS.	6	Set
6.1.2f	Supply & Installation of 3 C x 4 Sqmm 1100V unarmoured double insulated flexible wire in white and black colour for UPS / RP circuit in existing wireways / conduit .	600	Mtr
6.1.2g	Supply & Installation of 25mm dia 2mm thick PVC conduit excluding wiring with clamps, bends, suspensions etc.	150	Mtr
6.1.2h	Supply & Installation of 25mm dia re-inforced flexible pvc conduit with coupling.	50	Mtr
6.1.2i	INDUSTRIAL PLUG AND SOCKET		
6.1.2j	Supply & Installation of single phase 32A industrial type metal clad socket with 16A SP MCB enclosure in false flooring near each rack. 10 x 2 =20nos	20	Nos.
6.1.2k	Supply & Installation of single phase 32A industrial type metal clad socket with 32A SP MCB enclosure in false flooring near each rack.		Nos.

6.1.3	Wire Ways for Networking and Power Cabling:		
	Supply & Installation of floor wire ways pre-fabricated out of 14 SWG GI / pregalvanised as per IS 2629, with removable covers with finally threaded screws. The entire fabrication and finish shall be as per approval of architects / Consultants. Local fabrication is not permitted shall be complete with all bends, joints and accessories. The installation includes co-ordination with the other agency for floor embedding.		
6.1.3a	Size - 300mm (W) x 40mm (D) - WIRE WAYS	55	Mtr
6.1.3b	Size - 150mm (W) x 40mm (D) - WIRE WAYS	20	Mtr
16.1.3c	Size - 75mm (W) x 40mm (D) - WIRE WAYS	12	Mtr
6.1.4	Junction Box:		
6.1.4a	Supply & Installation of 14 SWG GI 350x350x45mm junction box with cover. to match with item no. 10.00 above including co-ordination with other agencies for embedding in floor/column cladding	8	Nos.
6.1.4b	Supply & Installation of 14 SWG GI 200x200x45mm junction box with cover. To match with item no. 10.00 above including co-ordination with other agencies for embedding in floor/column cladding.	2	Nos.
7.1	Part - D: Supply & Installation of Light Fixtures:		
7.1.1	Supply & Installation of light fixtures complete with lamps, starter, electronic / Copper ballast, and starter. The rate shall include all mounting accessories like angles, fasteners supports, chain, adjustable hooks, grip bolts and nuts etc., complete. The electronic / Digital ballast shall be with THD < 10%. & low loss copper ballast Eqvlt. Cat. No. Of Philips / Thorn / GE make shall be quoted. So that client can select any make.		
	1. Supply means light fittings including lamps ready on site including transportation 2. Installation means erecting and miscellaneous components like bolts & nuts, junctions box, hanging chains / rods for fixing and physical handling 3. Client reserves the right to supply the light fittings directly		
7.1.2	Supply & Installation of recess mounted direct / indirect lighting designer luminaire with central assembly having special end caps and high efficiency, low glare, 3D OLC optics. With electronic ballast with THD less than 10%. For work station / server area Make : Philips Cat No. : PHILIPS WING-C- DX LINEA (With mirrors) - FBS 580 / 236 CNN D6 MM HF		
	Philips - Supply	20	Nos.
	Thorn - Supply		R.O
	GE - Supply		R.O

7.1.3	Supply & Installation of 2 x 18 W CFL recess mounted with reflector and diffuser decorative down lighter with electronic ballast For Corridors / entrance Make : Philips Cat No. : PHILIPS FBH 145 / 218 HF		
	Philips - Supply	10	Nos.
	Thorn - Supply		Nos.
	GE - Supply		Nos.
7.1.4	Supply and installation of 1 x 36W T5 surface mounted patti fittings with 1 x 36 W T5 lamp with Electronic ballast Make : Philips Cat No. : TCS 398 / 236 MDGN HF X-TEND AQUA		
	Philips - Supply	4	Nos.
	Thorn - Supply		Nos.
	GE - Supply		Nos.
8.1	Part - E: Earthing System:		
8.1.1a	Supply and installation of pipe electrode earth station as per IS 3043 complete with 38mm dia 'B' Class GI pipe, GI watering funnel, 600mm x 600mm CI frame and heavy duty CI cover, 300mm brick masonry chamber etc., complete earth value resistance should be less than one ohm.		Nos.
8.1.2b	Copper plate earth station as per IS 3043 complete with 600 x 600 x 3mm Copper plate B Class, GI pipe with watering funnel, 600 x 600 mm CI frame and heavy duty CI cover, 300mm brick masonry chamber etc., complete UPS BODY = 4Nos UPS neutral = 2 x 2 = 4Nos Server room rack = 1Nos PAC earthing = 1Nos	7	Nos.
8.1.3c	40 x 6mm GI flat as earth bus	100	Mtr
8.1.4d	25 x 3 mm Copper earths flat. From server racks to earth bus	200	Mtr
8.1.5e	Supply and laying of 8 SWG Copper wire.	50	Mtr
8.1.6f	Supply and laying of 8 SWG GI wire.	25	Mtr
	Professional charges		
	Contractors professional charges for following internal electrical works submission of 6 sets of electrical drawings (hard copy and soft copy)	LS	

9.1 Technical specifications of UPS:

9.1.1 UPS Bill of Material:

Supply of UPS of approved make preferably, APC, DB, Socomec, Emerson, MGE.

40kW Scalable to 80kW N+1, 400V	1
10KW POWER MODULE, 400V	1
Battery Module for 15 minutes backup(Low Maintenance Tubular / SMF Batteries of ISI Brand)	3
230 V TYPE PDU	1
PDU TYPE INPUT VOLTAGE AND TRNSFRM	1
PDU 80KW 400V IN MBP NO TRANS SINGLE FEED	1
TYPE & AMPACITY OF CIRCUIT BREAKERS	1
BLANKING PANEL 1 POLE 230V PSX-PDU	44

All the functions of the UPS Should be compatible with communication facilities / PC using web access

9.1.2 Technical Features of UPS Systems:

UPS Basics:

- 80kVA/80kW chasis upto 40 Kw capacity in 10kVA/10kW power module increments
- Power factor corrected input (no need for input filters)
- Fully rated inverter (kVA = kW)
- 125% continuous rated, modular static bypass
- Extended Run (XR) Enclosures available for longer runtime requirements
- Allows for generator to be sized at 1.3 times

Redundancy:

- Modules run in parallel
- Upgradeable to a N+1 redundancy ensures maximum uptime and continuous availability
- Hot-swappable

Scalability:

- Flexibility to grow as future needs change
- Load and runtime allow custom configuration
- Scaleable on the fly (no need for bypass)

Maintainability:

- Lower cost of ownership by simplifying maintenance
- Self diagnosing
- Predictive failure analysis and proactive notification
- Modular, hot-swappable components

- Manual and automatic bypass

Manageability:

- Built-in Web/SNMP card
- PowerView ▪ display for local management

9.1.3 PDU for the 80kW UPS:

The PDU with System Bypass features a space saving, rack-based design, with the step-down transformer, maintenance bypass panel and power panels all housed within an IT enclosure.

- Capable of distributing power overhead and/or under-floor
- One 44-position power panel
- Maintenance bypass panel and one input
- Transformer (input options: 400V)
- Optional load test port
- Optional current transformers (CT's) on each position
- Optional pin & sleeve input connector
- Optional transformer upstream of UPS avoids inrush current and saturation, no need to oversize transformer
- System Bypass Panel allows UPS to isolate from critical load
- Backup time around 15minutes

10.1 Supply of Air-conditioning systems:

Design, Supply, Installation, testing and commissioning of Precision Air-conditioning systems (PAC)

Scope of work includes Design, Supply, Installation, testing and commissioning of Microprocessor based DX type, and Precision Air Conditioning units (PAC units) of suitable cooling capacity & approved make preferably, Uniflair, APC, Stulz, Emerson etc. to maintain inside conditions of data center @ 21Deg±1degC, RH 50%±5%. The complete unit shall be designed for working 24 X 7 X 365 days operating basis with N +1 redundancy architecture requirements including indoor and outdoor condenser units, complete with EC fans for power savings, electrode type humidifier, dehumidifiers, in built sequencing, having high sensible heat ratio & CFM with EU4 filters, hydrophilic treatment of coils, complete with refrigerant piping, humidifier line, drain lines, weather resistant indoor outdoor stands with all supervisory & control features & safety alarms, also including first charge of R-407C refrigerant & oil. The precision units shall be air cooled refrigerant R-407C based system to avoid chilled water in critical space and in view of long term usage of the data center equipments.

The selection of suitable precision air-conditioning units shall be equipped with unique intelligent features offering maximum reliability, efficiency, precision and due respect for the environment to be supplied.

The design should ensure that the PAC provided can deliver high density cooling for typical rack loads of around 60kw. The design should ensure uniform cooling of the racks while maintaining proper CFM.

The precision air-conditioners shall have 2 independent refrigeration circuits (each comprising of scroll compressor, refrigeration circuit and condenser) and dual blowers for flexibility of operations and better redundancy. AC ducting shall have insulation, Floor / room discharge, Top suction indoor unit, outdoor condensing unit shall comprise air cooled condenser with fan, heater, humidifier, electronic thermostatic expansion valve, electronically turned fans and double skinned panels.

CONFORMITY TO INDIAN STANDARDS:

The Precision air conditioning equipment features and installation shall conform to various IS standards amended up to date wherever applicable. The internal rack layout design shall follow cold aisle and hot aisle concept as recommended by ASHRAE.

Safety Protections, Safety Interlocks, Refrigerant Piping, Microprocessor Controls etc., shall be as per the IS codes and standards.

The PAC equipment & the system shall be free from noise and vibrations.

DX Type PAC UNITS & Other Items to be delivered and installed.

Sl No.	Description	Quantity
1	DX type PAC Units	2nos
2	Indoor/outdoor adjustable height stand for the PAC units	2NOS
3	Sequential Controller for auto change over, duty cycle and fault change over for 2 units	1NOS
4	Aluminium Powder coated supply air floor grills (Size 600 x 600 mm) with MS Volume Control Damper.	12NOS
5	Copper cable interconnection between the outdoor and indoor 2.5 sqmm 4 Core Cu armored	45RMT
6	Copper refrigerant piping interconnection between the outdoor and indoor units as per manufacturer's specifications.	45RMT
7	G.I /PVC Drain & Humidifier line 'B' class 25 mm insulated with 9mm Nitrile	10RMT
8	Fresh water piping GI B Class 19 mm	10RMT
9	BMS card compatible with Modbus RTU or Backnet protocol for all the 2 units	1NOS
10	M.S Mounting Frame for Outdoor units (Condenser unit) with civil work.	2NOS
11	Commissioning of the system with R 407 C gas	2NOS
12	Power cabling from MCCB board to PAC units up to 5Rmt each unit	10RMT
13	Control cabling assuming 5 meter each unit	10RMT

The above quantities are indicative and will be as per approved design.

Controls & Instrumentations

For close control of the environmental conditions (Temp. and RH) the controller shall have proportional integration and differential (PID) and LCD display screen.

The following major features shall be displayed on the LCD Screen:

- a) Modes of operation
- b) Simultaneous displays of set temperature and actual temperature
- c) Date, time and unit identification display.
- d) System component Auto / Manual status display on the controller screen.
- e) Backup battery charge status display on the controller screen.
- f) Visual system alarm indication (along with mutable audio alarm as well).
- g) Alarm display menu
- h) 24 Hours temperature graph display menu.
- i) Programmable services interval indication display / alarm.
- j) Other information/features as per the standards.

The unit shall be capable of communicating through an RS-232 communications port to link up to all the units for monitoring and control purposes. The controller shall also incorporate two additional

spare alarm inputs for customer interface (eg unauthorized entry alarm and building fire alarm etc.)

The Manufacturer/ solely authorized distributor for this work shall provide free maintenance for a period of 24 months after the installation and successful commissioning of the PAC units and after taken over by the IIA for rectification of the defects that may arise during operation of the PAC units.

The bidder should work out design tonnage and air flow cfm values/ requirements independently as per characteristics of data center. All such design parameters shall be submitted with their bids in a standard format along with detail heat load estimation sheets.

The vendor shall leave necessary provisions required for fixing instruments, gauges, meters, etc. for testing the installation of PAC as per the design requirements. All such instruments, services etc. needed for the tests shall be arranged by the vendor at his own cost. The performance monitoring shall include temperature and humidity monitoring at randomly selected multiple location of hot aisle and return grill of the PAC units and should fall within the specified tolerances.

Documents to be provided while handing over the commissioned system by the vendor

1. Comprehensive operation and maintenance manual and spare parts catalogue for the PAC units.
2. Conceptual layout drawing for the server racks, which shall also shows routing of data, power cables, access for air-conditioning ducts, filters etc. Ducting drawings showing sizes of all air outlets & intakes, piping drawing showing all pipes size, valves and fittings etc.
3. Test certificates, consolidated control diagram and technical literature on all controls.
4. Manufacturer certificate, equipment warranties as applicable from original equipment manufacturer with challans etc.
5. List of recommended spare and consumables.
6. Detailed circuit diagram, local diagram of various electrical components have to be provided.
7. Sequence operation notes explaining the sequence of operations.
8. Written guarantee against defective materials and workmanship for the Defects liability period.

The tenderer should properly label all the network components like switches, hubs, servers, cable & its conduits, indicating the name of the equipment, configurations, serial no, location, etc. before handing over the PAC system, the selected contractor shall have no right to alter, omit, substitute any of the approved component design at his discretion, the contractor should bring to the knowledge of IIA in writing such events indicating the justification and cost implication for its consideration and approval.

11.1 Fire Alarm System:

Supply of fire alarm system preferably, Honeywell, Siemens approved make.

Sr. No.	Description	Qty.	Unit
I	Fire Alarm System for Server room		
	For Data Centre		
1	Main Fire Alarm Panel with 80 character LCD display, capable of catering to 99 devices (Detectors / Modules), complete with Battery	1	No.
2	Intellegent Addressable Multi-sensor Smoke Detectors with base (for AFC, BFC & BFF areas)	25	Nos.
3	Intellegent Addressable Control Modules (1 no for sounder and 1 no for F 200 activation)	2	Nos.
4	Intellegent Addressable Monitor Modules	2	Nos.
5	Intellegent Addressable Manual Call Stations	2	Nos.
6	Sounders	2	Nos.
7	Fault Isolator Modules	2	No.
8	Response Indicators	13	Nos.
9	2Core 1.5 sq.mm Shielded, Armoured Cable for signal	100	Mtrs.
	Sub Total for Fire Alarm System		
II	Auto fire Supression for server room		
1	80 Ltrs. Seamless cylinders complete with valve assembly with arrangement for supervisory switch to monitor cylinder pressure and a safety burst disc to comply with CCOE and a safety cap.	1	Nos.
2	Sinorix 227 Clean Agent (HFC 227) from Du-Pont	100	Kgs
3	Discharge Nozzles	12	Nos.
4	Primary Completer kit complete with Solenoid & Gauge Assembly, Discharge Tube, manual Pnematic Actuator, Flex Houes, Warning Sign, Namepalte and Connectors.	1	No.
5	Gas Release Panel	1	No.
6	Manifold Schedule 40 with necessary fittings	1	Lot
7	M.S. Seamless pipes as per ASTM A 106 Gr. B, Schedule 40 with necessary fittings.	1	No.
8	Manual Release Station	1	No.
9	Abort Station	1	No.
	Sub Total for auto fire supression system		
III	Water leak Detection system with battery back up		
	For Data Centre Room		
1	Water leak detection panel 4 zone	1	Set
2	Water leak detection cable (10 Mtrs. Each)	3	Mtrs.
3	Relay module for each zone built in water detection panel	3	Nos
4	2Core 1.5 sq.mm Shielded, Armoured Cable for signal	50	Mtrs.
	Sub Total for Water leak detection system		
IV	Access Control System		

1	Main Controller with power supply and PC connectivity. The controller should be 32 bit processor , capable to catering to atleast 2000 users and record atleast 10000 events	1	No.
2	Access Control Software with inbuilt basic time and attendance module	1	Set
3	Door Controller	3	Nos.
4	Bio metric Finger print reader with inbuilt proximity reader	1	Nos.
5	Proximity type Card Readers	7	Nos.
6	Proximity Cards (Blank faced)	25	Nos.
7	Single Leaf Electro Magnetic Lock	4	Nos.
8	Door Contacts	4	Nos.
9	1.0 sq.mm 5 core Shielded, UnArmoured Cable (Readers)	75	Mtrs.
10	1.0 sq.mm 2 Core Shielded, unArmoured Cable (for Locks / Communication and conduit)	50	Mtrs.
11	PVC conduit 25 mm dia	125	Mtrs.
12	Intelligent Addressable Control Modules (for de activation of access control doors in case of fire)	2	Nos.
Subtotal for Access Control System			
V Fire Extinguisher System			
1	ABC powder type 5 Kg cylinder with pr gauge	2	No
2	CO2 gas cylinder 2.5 Kg with pressure gauge	2	No
Subtotal for extinguisher system			

12.1 Eligibility criteria of vendor:

Vendors who have completed similar works in last 3 years will be only considered.

13.1 Expected deliverables:

All relevant test reports and operational/maintenance manuals should accompany distribution boards, air-conditioners, UPS and fire alarm systems.

14.1 Inspection, testing and Acceptance criteria:

14.1.1 Earthing:

Earthing value resistance should be less than one ohm.

14.1.2 UPS Testing:

UPS supplier should conduct full load test at his factory premises in the presence of IIA engineer.

14.1.3 Distribution panel board:

Medium voltage distribution panel board shall be tested at his premises before supply. The panel fabrication should confirm to relevant Indian international standards. Only

BESCOM approved materials have to be used. Panel supply should be of branded make.

14.1.4 Air-conditioners testing:

Air-conditioners need to be tested after installation for its performance. The inside condition should satisfy 21 +/- 1deg C and 50 +/- 5 % Relative humidity.

14.1.5 Firm alarm systems shall be tested after installation at site for its performance.

15.1 Expected Time Schedule:

The work should be completed including testing and commissioning within 4 months from the date of award of contract.

16.1 For further information/Clarifications:

Dr. Dipankar Banerjee may be contacted for any other technical clarifications.

17.1 Conceptual layout/Drawings if any:

The general conceptual layout of the proposed DATA Center is shown in Annexure II. The single line diagram of electrical distribution is also shown. Note that the layout should include space for 3 computer operators separated by a partition from the server space.

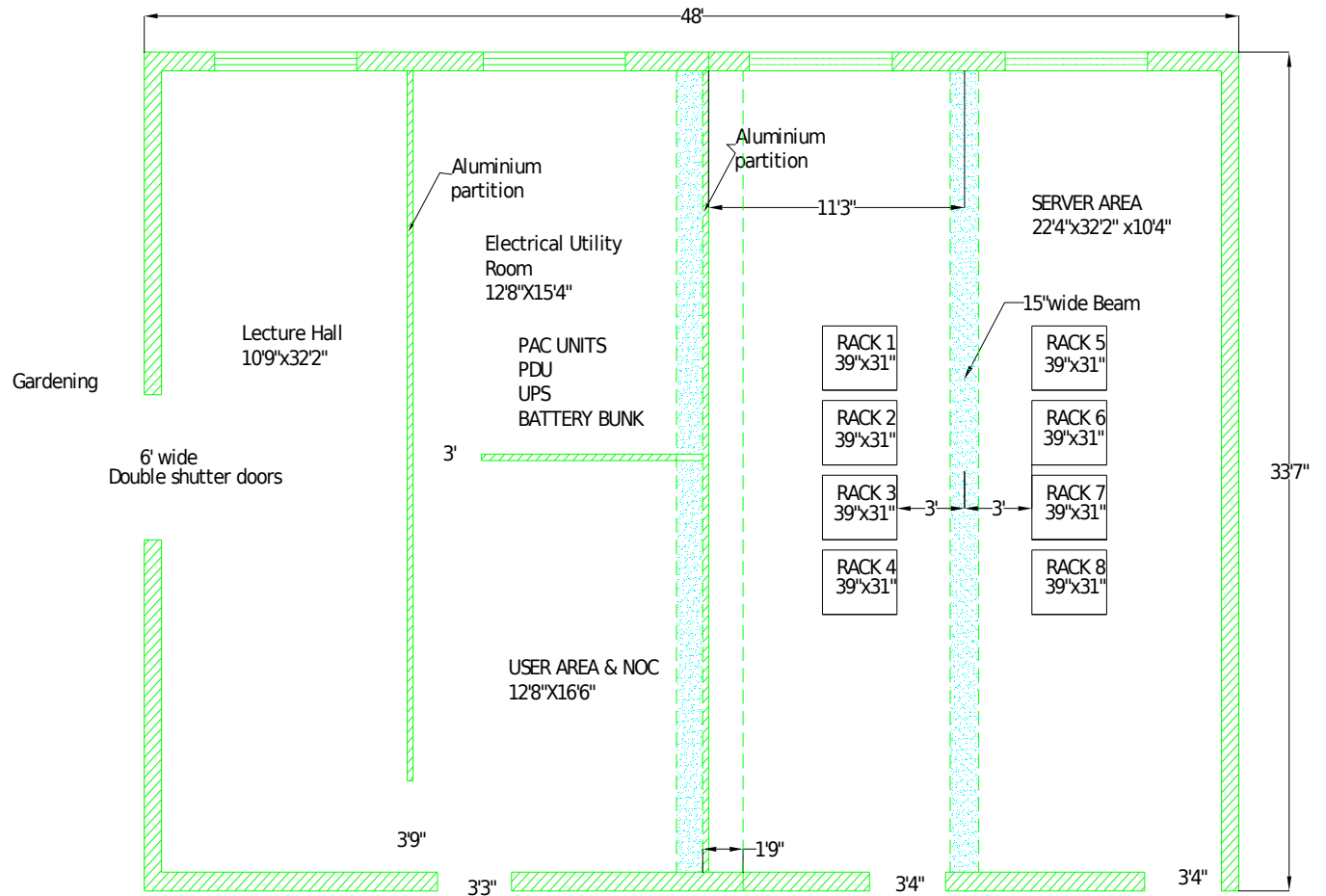
17.2 Free post commissioning maintenance service.

The supplier must give one year free post commissioning service (including replacement warranty as applicable to individual items).

Annexure II

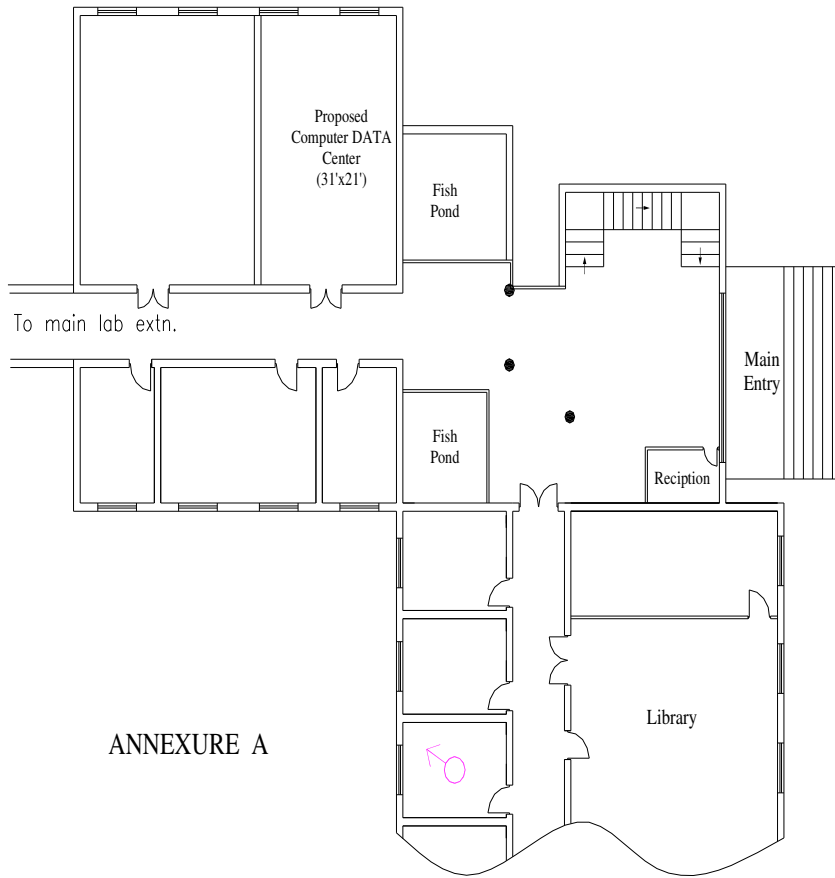
Concept Drawing of DATA Center at IIAP Koramangala

(This should be used as a guideline only; the vendors are free to propose/modify the layout using the existing space)



PROPOSED DATA CENTER

18.1 Annexure A-Location Map



Annexure – III

INSTRUCTIONS TO TENDERERS

- 1)Tenders should be sent in sealed and superscribed envelopes with mention of Tender No. date and date of opening.
 - 2)Late and Delayed Tender will not consider at all.
 - 3)Duties, Taxes where legally leviable and intended to be claimed should be distinctly shown separately in the Tender.
 - 4)As a Govt. of India Department, this office is exempted from the payment of Octroi Duty and similar local levies (but not providing any C or D forms). Tenderers shall ensure that necessary exemption certificates are obtained from the officer concerned to avoid any payment of such levies.
 - a) Your quotation should be valid for 120 days from the date. of opening of tender.
 - b) Prices are required to be quoted accordingly to the units indicated in the annexed tender form. When quotations are given in terms of units other than those specified in the tender form, relationship between the two sets of units must be furnished.
 - 5) All available Technical Literature(s), Catalogue(s) and other data in support of the specifications and details of the item(s) should be furnished along with the offer.
 - a) Samples, if any, called for, should be submitted free of all charges by the tenderer and the Purchaser shall not be responsible for any loss or damage thereof due to any reason whatsoever. In the event of non-acceptance of tender, the tenderer shall have to remove the samples at his own expense.
 - b) Approximate net and gross weight of the items offered shall be indicated in your offer. If dimensional details are available the same should indicated in your offer.
- d) **SPECIFICATIONS:**
- Stores offered should strictly conform to our specifications. Deviation, if any should be clearly indicated by the tenderer in their quotation. The tenderer should also indicate the Make/type No. of the stores offered and provide catalogue(s), Technical literature(s) and sample(s), wherever necessary along with the quotations. Test certificates wherever necessary should be forwarded along with the supplies. Whenever options are called for in our specifications, the tenderer should address all such options. Wherever specifically mentioned by us the tenderer could suggest changes to specifications with appropriate response for the same.
- 1.The purchaser shall be under no obligation to accept the lowest or any tender and reserves the right of acceptance of the whole or any part of the tender or portion of the quantity offered and the tenderers shall supply the same at the rates quoted.

2. Corrections, if any, must be attested. All amounts shall be indicated both in words as well as in figures. Where there is difference between amounts quoted in words and figures, amount quoted in words shall prevail.
3. The Tenderer should supply along with the tender, the name of his bankers as well as the latest Income Tax Clearance Certificate duly countersigned by the Income Tax Officer of the circle concerned under the seal of his office.
4. The Purchaser reserves the right to place order on the successful tenderers for additional quantity up to 25% of the quantity offered by them at the rates quoted.
5. The authority of the person signing the tender, if called should be produced.
6. Complete system configuration and sub-system design details should have approval of the purchaser before actual fabrication or procurement process.
7. A complete set of instruction and operation manual should be supplied at the time of installation.
8. Final performance should be guaranteed at the site.

TERMS AND CONDITIONS OF CONTRACT:

1. DEFINITIONS:

- a). The terms 'Purchaser' shall mean the Director, Indian Institute of Astrophysics, Bangalore-560 034.
- b). The term 'Contractor' shall mean, the person, firm or company with whom or with which the order for the supply of stores is placed and shall be deemed to include the Contractor's successors, representative, heirs, executors and administrators unless excluded by the contract.
- c). The 'Stores' shall mean that contractor agrees to supply under the contract as specified in the Purchase order including Design, Supply, installation, testing and commissioning of computer / data center at IIA, Koramangala, Bangalore, as a turkey project inclusive of relocation of computer equipments and accessories from exiting computer rooms of the proposed data center at Ground Floor A concept drawing and specifications are in Annexure II in the Purchase Order.
- d). The terms 'Purchase Order' shall mean the communication signed on behalf of the Purchaser by an officer duly authorized intimating the acceptance on behalf the Purchaser on the terms and conditions mentioned or referred to in the said communications accepting the tender or offer of the contractor for supply of stores or plant, machinery or equipment or part thereof.

2. PRICES:

Tenders, offering firm prices will be preferred, where a price variation clause is insisted upon by tenderer, quotations with a reasonable ceiling should be submitted. Such offers should invariably be supported by the base price taken into account at the time of tendering and also the formula for any such variations.

3. DUTY EXEMPTION

- (a) Any essential Equipment/part of the equipment can be imported for which "Duty Exemption Certificate" will be provided by IIA under the Government of India notification No. 51/96 as an actual user basis.
- (b) Excise duty exemption certificate will be provided if considered against the categories of items tendered, under the Govt. of India Notification No. 10/97 valid till 2011.

4. SECURITY DEPOSIT:

On acceptance of Tender, the Contractor shall, at the option of the Purchaser and within the period specified by him deposit with him in cash or any other form as the Purchaser may determine, Security deposit not exceeding ten percent of the value of the contract as the Purchaser shall specify. If the contractor is called upon by the purchaser to deposit 'Security' and the contractor fails to provide the security within the period specified, such failure shall constitute a breach of the contract and purchase shall be entitled to make other arrangements for the re-purchase of the stores

contracted for at the risk of contractor in terms of sub-clause (ii) and (iii) of clause 10 (b) hereof and/or to recover from the contractor damages arising from such cancellation.

5. GUARANTEE AND REPLACEMENT:

- a) The contractor shall guarantee that the stores supplied shall comply fully with the specifications laid down, for material workmanship and performance.
- b) For a period of (12) twelve months after the acceptance of the stores, if any defects are discovered therein or any defects therein found to have developed under proper use arising from faulty stores, design or workmanship, contractor shall remedy such defects at his own cost provided he is called upon to do so within a period of 14 months from the date of acceptance thereof by the purchaser who shall state in writing in what respect the store or any part thereof are faulty.
- c) If in the opinion of the purchaser, it becomes necessary to replace or renew any defective stores such replacement or renewal shall be made by the Contractor free of all costs to the purchaser provided the notice informing the contractor of the defect is given by the purchaser in this regard within the said 14 months from the date of acceptance thereof.
- d) Should the contractor fail to rectify the defects, the purchaser shall have the right to reject or repair or replace at the cost of the contractor the whole or any portion of the defective stores.
- e) The decision of the purchaser, notwithstanding any prior approval of acceptance or inspection thereof on behalf of the purchaser, as to whether or not the stores supplied by the contractor are defective or any defects has developed within the said period of 12 months or as to whether the nature of the defectives required renewal or replacement shall be final, conclusive and binding on the contractor
- f) To fulfill guarantee conditions outlined in Clause 5(a) to (d) above, the contractor shall, at the option of the purchaser, furnish a Bank Guarantee (as prescribed by the purchaser) from a Bank approved by the purchaser for an amount equivalent to 10% of the value of the contract along with first shipment documents. On the performance and completion of the contract in all respects, the Bank Guarantee will be returned to the contractor without any interest.
- g) All the replacement stores shall also be guaranteed for a period of 12 months from the date of arrival of stores at Purchaser's site.
- h) Even while the 12 months guarantee applied to all stores in case where a greater period is called forth by our specifications then such a specification shall apply; in such cases the period of 14 months referred to in Para 5(b) and (c) shall be 'asked for' guarantee period plus two months.

6. PACKING, FORWARDING AND INSURANCE:

The Contractor will be held responsible for the stores being sufficiently and properly packed for transport by rail, road, sea or air, to withstand transit hazards and ensure safe arrival at the destination. The packing and marking of packing shall be done by and at the expenses of the contractor. The Purchaser will not pay separately for transit insurance, all risks in transit being exclusively of the contractor and the Purchaser shall pay only for such stores as are actually received

in good condition, in accordance with contract.

7. TEST CERTIFICATE:

8. ACCEPTANCE OF STORES:

Wherever required Test Certificate should be sent along with the relevant dispatch documents.

- a) The Stores shall be tendered by the contractor for inspection at such places as may be specified by the purchaser at the Contractor's own risk, expenses and cost.
- b) It is expressly agreed that the acceptance of stores, contracted for is subject to final approval by the Purchaser, whose decision shall be final.
- c) If, in the opinion of the Purchaser all or any of the stores that do not meet the performance or quality requirements specified in the Purchase Order, they may be either rejected or accepted at the price to be fixed by the purchaser and his decision as to rejection and the prices to be fixed shall be final and binding on the contractor.
- d) If the whole or any part of the store supplied are rejected in accordance with Clause No.8 (c) above, the Purchaser shall be at the liberty, with or without notice to the Contractor, to purchase in the open market at the expenses of the Contractor, stores meeting the necessary performance and quality contracted for in place of these rejected, provided that either the purchase, or the agreement to purchase, from another supplier is made within six months from the date of rejection of the stores as aforesaid.

9. REJECTION OF STORES:

Rejected Stores will remain at the destination at the Contractor's risk and responsibility, if instructions for their disposal are not received from the Contractor within a period of 14 days from the date of receipt of the advice or rejection, the Purchaser or his representative has, at his discretion the right to scrap or seal or consign the rejected stores to the Contractor's address at the Contractor's entire risk and expense, freight being payable by the Contractor at actual.

10. DELIVERY PERIOD:

- a) The delivery period of the stores stipulated in the Purchase order shall be deemed to be the essence of the Contract, and delivery must be completed on or before the specified dates/ period.
- b) Should the Contractor fails to deliver the stores or any consignment thereof within the period prescribed for such delivery, the Purchaser shall be entitled at his option either.
 - i) to recover from the Contractor as agreed liquidated damages and not by way of penalty, a sum of 2% of the price of any stores which the contractor has failed to deliver as aforesaid for each month or part of a month, during which the delivery of such stores may in arrears, or
 - ii) to purchase elsewhere, without notice to the Contractor on the account and at the risk of the contractor, the stores not delivered or others of similar description (where other exactly complying with the particulars are not, in the opinion of the purchaser readily procurable, such opinion being final) without canceling the Contract in respect of the consignment(s) not yet due for delivery or,

iii) to cancel the contract or a portion thereof, and, if so desired to purchase or authorize the purchase of stores not so delivered or others of similar description (where others exactly complying with the particulars are not, in the opinion of the purchaser readily procurable, such opinion final) at the risk and cost of the Contractor.

In the event of action being taken under sub-clause (ii) and (iii) of clause 10 above, the Contractor shall be liable for any loss which the Purchaser may sustain on that account, provided that the re-purchase, or, if there is an agreement to re-provide shall made within (6) six months from the date of such failure. But the Contractor shall not be entitled to any gain on such re-purchase made against default. It shall not be necessary for the purchaser to serve a notice of such re-purchase on the defaulting Contractor. This right shall without prejudice to the right of the purchase to recover damages for breach of contract by the Contractor.

11. EXTENTION OF DELIVERY TIME:

As soon as it is apparent that Contractor delivery period / dates cannot be adhered to, an application shall be sent by the Contractor to the Purchaser. If failure, on the part of the Contractor to deliver the stores in proper time shall have arisen from any cause which the Purchaser may admit as reasonable ground for an extension of the time (and his decision shall be final he may allow such additional time as he considers it to be justified by the circumstances of the case without prejudice to the Purchaser's rights to recover liquidated damages under clause 10(i) (ii) and (iii).

12. RECOVERY OF SUMS DUE:

Whenever there is a breach of contract whether liquidated or not, money arising out of or under this contract against the contract, the Purchaser shall be entitled to recover such sum by appropriating, in part or whole, the security deposited by the Contractor, if a Security is taken against the contract. In the event of the Security being insufficient or if no security has been taken from the Contractor, then the balance or the total sum recoverable as the case may be shall be deducted from any sum then due or which at any time thereafter may become due to the contractor under this or any other contract with the 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 claims, whether liquidated or not, against the Contractor under any other contract with the purchaser, the payment of all moneys payable under the contract to the Contractor including the Security Deposit shall be withheld till such claims of the Purchaser are finally adjudicated upon and paid by the Contractor.

13. INDEMNITY:

The Contractor shall warrant and be deemed to have warranted that all stores supplied against this contract are free and clean of infringement of any patent, copy right or trade mark, and shall at all time indemnify the purchaser against all claims which may be made in respect of the stores for infringement of any right protected by patent, registration of design or trade mark and shall take all risk of accidents of damage which may cause a failure of the supply from whatever cause arising and the entire responsibility for sufficiency of all the means used by him for the fulfillment of contract

14. ARBITRATION:

In the event of any question, dispute or difference arising under these conditions contained in the purchase order in connection with this contract, (except as to any matters the decision of which is specially provided for by these conditions), the same shall be referred to the sole arbitration of the Head of the Institution or of some other person appointed by him. It will be no objection that the arbitrator is a Government Servant, that he has to deal with matter to which the Contract relates or that in the course of his duties as Government Servant he has expressed views on all or any of the matters in dispute binding on the parties of this Contract.

(a) IT IS TERMS OF THIS CONTRACT:

If the Arbitrator be the Head of the Institution,

- i) in the event of his being transferred or vacating his office by resignation or otherwise, it shall be lawful for his successor-in-office either to proceed with the reference himself, or to
- ii) appoint another person as arbitrator, or, in the event of his being unwilling or unable to act for any reason, it shall be lawful for the Head of the Institution, to appoint another person as arbitrator or,

(b) If the Arbitrator be a Person appointed by the Head of the Institution:-

In the event of his death, neglecting or refusing to act, or resigning or being unable to act for any reason, it shall be lawful for the Head of the Institution either to proceed with reference himself or to appoint another person as arbitrator in place of the outgoing arbitrator. Subject as aforesaid, the Arbitration Act, 1940 and the rules there under and any statutory modifications thereof for the time being in force shall be deemed to apply to the arbitration proceedings under this clause. The Arbitrator shall have the power to extend with the consent of the Purchaser and the Contractor the time for making a publishing the award. The venue of Arbitration shall be the place as the Purchaser. In his absolute discretion may determine. Work under the contract shall if reasonably possible, continue during Arbitration proceedings.

16. COUNTER TERMS AND CONDITIONS OF SUPPLIERS:

Where Counter Terms and Conditions/printed or cyclostyled conditions have been offered by the Supplier, the same shall not be deemed to have been accepted by the Purchaser, unless specific written acceptance thereof is obtained.

17. SECURITY FOR PURCHASER'S MATERIAL(S):

Successful Tenderer will have to furnish in the form of a Bank Guarantee or any other form as called for by the Purchaser towards adequate security for the materials/property provided by the Purchaser for the due execution of the Contract.