

JAWAHARLAL INSTITUTE OF POST GRADUATE MEDICAL EDUCATION AND RESEARCH

(AN INSTITUTE OF NATIONAL IMPORTANCE)

PART-D

TENDER DOCUMENT

For the work of

*Establishment of IVF LAB at WCH Block for JIPMER,
Puducherry.*

PART-I

Civil, Electrical, HVAC Works, UPS System and Medical Gas System.

Special Conditions of Contract

TENDER NO. [HLL/IDS/IVF-JIPMER/16/03](#)

Dated: 25th May 2016

HLL LIFECARE LIMITED.

SECTION I

SPECIAL CONDITIONS OF CONTRACT

1.0 Scope of Work

1.1 The construction works shall, inter-alia, include the following, as specified or as directed.

1.2 (A)

CIVIL WORKS	
	Description
	<p>Wall Panelling : Supply and installation of 80mm thick puff insulated wall panel with PPGI inside and IS 304 SS grade 1mm thick lamination outside. Finished to a clean room standards. The core of sandwich panel shall be filled with ridged poly-urethane foam which has to be injected under high pressure with minimum density of 40kg/m³. The individual wall panels shall be fixed using tongue and groove technology. The gaps between panel shall be suitably filled with metal filler / epoxy or any other approved sealant, all as specified and directed by Engineer-in-charge.</p>
	<p>Ceiling : Supply and installation of 60mm thick and puff insulated ceiling panel with inside PPGI and outside with IS 304 SS grade 0.8mm thick lamination. Finished to a clean room standards. The core of sandwich panel shall be filled with ridged poly-urethane foam which has to be injected under high pressure with minimum density of 40kg/m³. The individual ceiling panels shall be fixed using tongue and groove technology. The gaps between panel shall be suitably filled with metal filler / epoxy or any other approved sealant.</p>
	<p>Door : Supply and fixing 49mm thick puff insulated stainless steel clean room doors (laminated with 1mm thick SS 304 grade lamination both sides) door shutters with suitable frame, locking arrangement, automatic door closer, handles etc complete. Vision panel shall be provided. The gasket used shall comply with clean room standard.</p>
	<p>Providing and fixing static SS pass box of size 450x450mm in between IVF Lab and OT . For material transfer(Inclusive of cutting and making good the same).</p>
	<p>Flooring : Providing and fixing anti-static seamless, stain free, conductive of high frequency electric charges. Providing and fixing 4mm thick epoxy self levelling floor over a coat of epoxy primer of approved colour of coverage 250gram/sqm using steel trowel with notches to give a jointless monolithic, smooth, over existing floor, surface thoroughly cleaned for oil or grease by suitable solvents, at all levels as per manufacturers' specification. Also include all materials, preparation and levelling concrete, with providing 0.2mm thick & 20mm wide copper strip at 2ft center to center both ways and three layers of 450grams per sqm fiber laminated with resins and protection with plastic sheet, and removing the same before handing over, work at all levels etc., complete as directed. The flooring shall be provided with 100mm curved skirting along the walls.</p>

	Dismantling and redoing of all types of false ceiling using 15mm thick (600mmx600mm) mineral fibre board tiles duly hanged from the top including making good all damages, electrical fixtures and fittings etc complete.(for laying exhaust duct and reouting Medical gas pipe line)
	Enabling works : All as directed by Engineer-in-charge
a	Material and labour for removing existing doors along with frames and making good the damages etc complete.
b	Material and labour for remaining existing existing pass box and making the opening for receiving new SS pass box.
c	Materials and labour for removing existing pass box and closing the opening with masonry and plastering, painting etc complete.
d	Dismantling existing counters making good all the damages to wall and floor etc complete
e	Removing existing false ceiling complete with all electrical and other fittings etc complete.
f	Closing existing windows / structural glass without affecting the elevation of the building before panelling.
g	Removal of plastering wherever required, re-plastering the removed area and painting etc complete.
	Providing and fixing for following Aluminium work for door, windows , ventuilators and partitions with extruded built up standard tubular section /appropriate Z sections and other sections of approved makes confirming to IS 733 and IS 1285 fixing with dash fastners of required dia and size including necesarry filling of the gaps at junctions i.e at the top, bottom and sides with required EPDM rubber/ neoperene gasket etc. Aluminium sections shall be smooth rust free straight mitred and joined mechanically where evere required including cleat angle, aluminium snap beading for tracing/ pabelling/ CP brass/ stainless stell screws, all complete as per archetecturral drawings under the directions of Engineer in charge for Male and female change room aluminium partition with sliding door(Sliding door shall be measured seperately)
	for Male and female change room aluminium partition with sliding door(Sliding door shall be measured seperately as per item b)
a	Fully Novapan ply with aluminium partition
b	Sliding door
c	Providing partly glazed aluminium partition for keeping gas cylinder in Anderology room with sliding door(Sliding door shall be Measured seperately as per item b)
	Unforeseen items

B)

ELECTRICAL ESTIMATE	
1.12	Wiring for light/ power plug with 2X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed medium class PVC conduit alongwith 1 No 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required.
1.13	Wiring for light/ power plug with 4X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed medium class PVC conduit alongwith 2 Nos 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required.

1.14	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed medium class PVC conduit as required
1.14.2	2 X 2.5 sq. mm + 1 X 2.5 sq. mm earth wire
1.14.4	2 X 6 sq. mm + 1 X 6 sq. mm earth wire
1.14.9	4 X 6 sq. mm + 2 X 6 sq. mm earth wire
1.14.10	4 X 10 sq. mm + 2 X 10 sq. mm earth wire
1.14.11	4 X 16 sq. mm + 2 X 16 sq. mm earth wire
1.18	Supplying and drawing following pair 0.5 mm dia FRLS PVC insulated annealed copper conductor, unarmored telephone cable in the existing surface/ recessed steel/ PVC conduit as required.
1.18.3	4 Pair
1.21	Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.
1.21.1	20 mm
1.24	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.
1.24.6	Telephone socket outlet
1.28	Supplying and fixing following Modular base & cover plate on existing modular metal boxes etc. as required.
1.28.1	1 or 2 Module
1.31	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 3 pin 5/6 amps modular socket outlet and 5/6 amps modular switch, connection etc. as required. (For light plugs to be used in non residential buildings).
1.32	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 6 pin 5/6 & 15/16 amps modular socket outlet and 15/16 amps modular switch, connection etc. as required.
1.5	Supplying and drawing of UTO & Pair CAT 6 LAN Cable in the existing surface / recessed steel/ PVC conduit as required.
2.2	Providing and fixing following rating and breaking capacity and pole MCCB in existing cubicle panel board including drilling holes in cubicle panel, making connection etc as required.
2.2.1	100Amp.16KA , TPMCCB
2.5	Supplying and fixing of following amps surface/recess mounting, vertical type, 415 Volts, TPN MCB distribution board of sheet steel, dust protected, duly powder painted, inclusive of 200amps tinned copper bus bar, common neutral link, earth bar, din bar for mounting MCB's (But Without MCB's and Incomer) as required. Note: Vertical type MCB DB is normally used where 3 phase outlets were required.
2.5.4	4 Way (4+12), Double door

2.8	Supplying and fixing following way prewired TP&N MCB distribution board of steel sheet for 415 volts on surface/ recess complete with loose wire box, terminal connectors for all incoming and outgoing circuits, duly prewired with suitable size FRLS PVC insulated copper conductor up to terminal blocks, tinned copper bus bar, neutral link, earth bar, din bar, detachable gland plate, interconnections, powder painted including earthing etc. As required.(But without MCB/ RCCB/ Isolator)
2.8.8	12 way (4 + 36), Double door
2.1	Supplying and fixing 5 amps to 32 amps rating, 240/415 volts, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.
2.10.1	Single pole
2.10.2	Single pole and neutral
2.10.3	Double pole
2.10.4	Triple pole
2.10.5	Triple pole and neutral
2.13	Supplying and fixing following rating, four pole, 415 volts, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.
2.13.2	63 amps
2.15	Supplying and fixing following rating, four pole, (three phase and neutral), 415 volts, residual current circuit breaker (RCCB), having a sensitivity current upto 300 milliamperes in the existing MCB DB complete with connections, testing and commissioning etc. as required.
2.15.3	63 amps
2.17	Supplying and fixing TP sheet steel enclosure on surface/ recess along with 16/25/32amps 415 volts "C" curve TP MCB complete with connections, testing and commissioning etc. as required.
2.18	Supplying and fixing 20 amps, 240 volts, SPN industrial type, socket outlet, with 2 pole and earth, metal enclosed plug top alongwith 20 amps "C" curve, SP, MCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket out let and complete with connections, testing and commissioning etc. as required.
2.19	Supplying and fixing 20 amps, 415 volts, TPN industrial type, socket outlet, with 4 pole and earth, metal enclosed plug top alongwith 20 amps "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket out let and complete with connections, testing and commissioning etc. as required.
2.2	Supplying and fixing 30 amps, 415 volts, TPN industrial type, socket outlet, with 4 pole and earth, metal enclosed plug top alongwith 30 amps "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket out let and complete with connections, testing and commissioning etc. as required.

C)

	Earthing
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5.2	Earthing with G.I. earth pipe 4.5 metre long, 40 mm dia including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe etc. with charcoal/ coke and salt as required.
5.4	Earthing with G.I. earth plate 600 mm X 600 mm X 6 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc. with charcoal/ coke and salt as required.
5.11	Providing and fixing 25 mm X 5 mm G.I. strip in 40 mm dia G.I. pipe on earth electrode including connection with G.I. nut, bolt, spring, washer excavation and re-filling etc. as required.
5.15	Providing and fixing 25 mm X 5 mm G.I. strip on surface or in recess for connections etc. as required.
5.16	Providing and fixing 6 SWG dia G.I. wire on surface or in recess for loop earthing as required.

D)

ELECTRICAL MISCELLANEOUS WORKS	
	Supplying and fixing of copper strip of size 50mm width thickness 0.5mm(for antistatic earthing in all the labs)in floor, surface and furnitures etc complete with all accessories inclusive of fixing and pasting
	Removing of existing AC ducts and closing / opening wherever required along with making good all the damages with required spares and materials etc. complete.
	Supplying & laying of GI duct for exhaust, with all accessories complete including hanging in the ceiling, walls where ever necessary. (300mmx300mm).
	Supply, Installation, Testing & Commissioning of high speed 3 star rated exhaust fan made of metal of 300mm diameter in GI duct with all accessories complete

E)

CENTRALISED UPS SYSTEM (POWER BACK UP SYSTEM)	
	Supply, Installation, Testing & Commissioning of 5 KVA DSP based Online UPS with IGBT rectifier, IGBT inverter , nominal input voltage of 480V, 4 wired with 3 pole breaker and output nominal voltage 480V , 5 KVA power output with 93% full load capacity with multifunction LCD status console , Emergency power off operating at temperature of 0-40 degrees. Make (APC, EATON/EMERSON)
	Double Conversion Technology with Static Bypass For 60 minute backup to the stated load complete with all necessary hardware & accessories, etc. complete as required.
	Required number of VRLA Battery - 12 V for Battery backup upto 60 minutes With Battery cabinets and Cables along with necessary hardware, accessories - Battery Breaker, Racks, Linkset & Battery to UPS Cables etc. complete as required. (Make of batteries- Exide / Amaron / Amco)
	Network management card (OC WAP Card) for the UPS to connect to the server. (If required.)
	Delivery & Installation charges
	Full set as above

F)

	LIGHTING AND AIR CONDITIONING SYSTEM FOR IVF AND OT
	<p>Supplying, installation testing and commissioning of Air Purifier System of 8 TR ,High static unit with Air cooled gas based (R-407-C) High static air-purifier for OT-capacity 8 TR-125mm wg static pressure , 4000 cfm air flow , 20/22 degree Celsius ,45-65% Rh ,80% re cycling air , 20%fresh air , 10 micron HDP pre-filter at suction side , 5 micron HDP-fine filter at delivery side , thermostat , and humidistat , de humidifier ,double skin puff insulated AHU , with Nikotra / Kruger fan ,Blue star condensing unit with Danfos scroll compressor , Microprocessor control panel, copper piping , gas filling etc.</p>
	<p>UV LIGHT: Supply and fixing of Ultraviolet lights comprising of 30 watts UV tubes are fixed to the Frame . The SS frame is manufactured from 1.2 mm, Type 304, stainless steel. The unit is easy to disinfect and maintain.</p>

	<p>HEPA FILTER AND VERTICAL LAMINAR FLOW FOR IVF AND OT: Supplying, installation, testing and commissioning of Ultra Clean Ventilation system. UCV 6F 4000 MPF For IVF OT TOTAL HEPA FILTERATION AREA – 2 Sq.ft x 3 set SS plenum and HEPA filters for Ultra Clean room of class ISO class5 Ventilation arrangement of A/C inside the theatre comprising of SS supply plenum (size 33 "L x 33"B x 12"H including the 3" flanges on all sides X 3 Sets ., material SS 304, 1mm, mat finish) HEPA filters 0.3microns, efficiency 99.99% EU13</p> <p>Sizes of –600mm x 600mm x 75mm HEPA filters will be fixed to the plenum using M8 x 25 304 tvs SS bolts and nuts.), SS perforated sheets (supply perforated sheet fascia size will be 95"L x 81"B' Material: 1 mm SS304, Mat finish. Hole size 6/8mm round shape with 95 % perforation. Return air perforated fascia size will be 9" x 24"(approx.), including the 1" border on all sides, Material: aluminum Mat finish. With 10 micron fine filter90 % perforation, the R/A perforated sheet will be fixed to the R/A riser using M4 x 12mm 304 Allen key type cheese head screws. The plenum shall be connected to supply air ducts carrying 5 micron filtered air at 125mm WG static pressure. The HEPA filters shall be made of aluminum body/ss and Hollingsworth USA media ,factory tested and certified. Test seals shall be provided in the filter casing in accordance with DIN 1946 and DIN4799. Calibration and Validation certificates shall be provided for each filter from the factory. Supply as well as return air ducting inside the OT (The ducts shall be fabricated from 0.9mm aluminum sheets). The supply ducts shall be insulated with 19mm Nitrile rubber and R/A duct using 9mm Nitrile rubber. Thehorizontal ducts shall be suspended by 8mm full thread rode and G I channels at an interval of seven feet at suitable heights.) inside the operation theatre.(This includes the ducting outside the IVF and OT, AHU, micro-veefilter and prefilter.). This cost shall includes copper piping, internal ducting for suction and outlet, discharge line, exhaust valve, hard shut valves, room thermostat, hard drawn copper piping etc complete(for ensuring the running of HVAC system in all respect complete. etc. othet than external ducting)</p>
	Supply, Installation testing and commissioning of 24G GI duct with insulated with Nitrile rubber of 13mm thick for supply and exhaust along with wire gauzed cement fixed insulation including core cutting / breaking wall etc complete.(For external ducting only)
	<p>LIGHTING FOR IVF AND OT : Supplying and fixing of LED light fitting with of lux level equal to 1000 lumens as per design at the general area other than 40000 lumens with dimmable control at the working table suitable for fixing at the cut out of wall/ceiling/ spaces where ever provided (STERILE ZONE- Led Lights for IVF lab and OT). The light fittings shall be suspended in the ceiling/fixed to wall suitable to ceiling and wall types .</p>
	CONTROL AND MONITORING SENSOR:supply installation testing and commissioning of SENDOR for Monitoring control system for IVF and OT to monitor Temperature, Humidity, D pressure etc. with wired/wireless data logging system. (Hign end Model)
	Validation of clean room systemby third party of all area mentioned in the drawing.

G)

MEDICAL GAS PIPE LINE SYSTEM	
Description	

	SCOPE OF WORK: Supplying, Installation testing and commissioning of the following Medical gas pipeline system of Copper pipe with OD 28mm, 22mm, 15mm & 12mm including isolation valves, alarm panel and outlets for Oxygen and Vacuum supply to Recovery area 3 beds at IVF Lab.
	Supply and fixing of copper pipe 28mm OD with 0.9 mm thick, with all fittings and fixtures required for commissioning including cutting to existing pipeline for connection.ect. Complete all as directed by Engineer incharge.
	Supply and fixing of copper pipe 22 mm OD with 0.9 mm thick, with all fittings and fixtures required for commissioning including cutting to existing pipeline for connection.ect. Complete all as directed by Engineer incharge.
	Supply and fixing of copper pipe 15mm OD with 0.9 mm thick, with all fittings and fixtures required for commissioning including cutting to existing pipeline for connection.ect. Complete all as directed by Engineer incharge.
	Supply and fixing of copper pipe 12 mm OD with 0.9 mm thick, with all fittings and fixtures required for commissioning including cutting to existing pipeline for connection.ect. Complete all as directed by Engineer incharge.
	Outlets fitting for Oxygen -
	Outlets fitting Vacuum -
	BPC flow meter with Humidifier
	Wall Mount Vacuum Jar unit 600 ml
	2 gas Isolation Box
	2 gas Alarm Panel

1.3 The successful tenderer will be expected to complete the Works within 2 calendar months from the 15th date from the date of issue of letter of acceptance or date of handing over of site whichever is later.

1.4 Throughout these tender documents, the terms “tender” and “bid” and derivatives tenderer/bidder, tender/bid and tendering/bidding etc. are synonymous and “day” means calendar day.

2.0 Location of Site

The site is located in JIPMER, Puducherry.

3.0 Deleted.

4.0 Dimensions and Levels

All dimensions and levels shown on the Drawings shall be verified by the Contractor on the Site and he will be held responsible for the accuracy and maintenance of all the dimensions and the levels.

5.0 Recorded Survey

As early as practicable after receipt of the work order, the Contractor shall carry out complete survey of the developed site including taking spot levels covering the whole

of site. The spot levels shall be recorded on a drawing to be prepared by the Contractor and agreed by the Employer's Representative and the drawing shall be duly signed by the Contractor and the Employer's Representative and be maintained carefully for future reference.

6.0 Notice of Operation

The Contractor shall not carry out any important operation without the consent in writing of the Employer's Representative.

7.0 Assistance for Employer/Employer's Representative

The Contractor shall provide for the Employer/ Employer's Representative at all times during the Contract including Maintenance Period, a competent chainman and/or all such other men as he may require to assist him in carrying out or checking any measurements, levels, setting out or measuring up or inspection of work. The Contractor shall also provide ladders, gangways, etc., and the necessary attendance to move and adopt as required and directed for inspection or measurement of the works by the Employer/ Employer's Representative.

8.0 Drinking Water

The Contractor shall provide and maintain at his cost and expense adequate drinking water complying in every respect with the regulations of local authorities for his workmen, sub-contractors and other contractors workmen working in the project and the Employer's Representative.

9.0 Construction Record

The Contractor shall keep and provide to the Employer's Representative and accurate records of the dimensions levels and positions of all new work and any other information necessary for the Employer's Representative to be able to prepare complete drawings, recording details of the works as constructed.

10.0 Safety of Adjacent Structures and Trees

The Contractor shall provide and erect to the approval of the Employer's Representative such supports as may be required to protect efficiently all structures and protective guards to trees which may be endangered by the execution of the works

or otherwise take such permanent measures as may be required by the Employer's Representative to protect the structures and trees.

Trees if any, existing at the site except those which are essential to be removed as per direction of the Employer's Representative be protected and maintained carefully to retain its healthy life.

11.0 Ordering Material

It shall be the responsibility of the Contractor to procure and bring to site of works all materials including cement and steel required for fulfilling the contract.

The Bill of Quantities shall not be used as a basis for ordering materials and the Contractor shall be entirely responsible for assessing the quantities of materials to be ordered.

12.0 Temporary Services

The Contractor shall provide and maintain all temporary services on or about the site required for the execution of the works and shall remove them on completion.

13.0 Keep Site Clean

During the progress of the works and when directed by the Employer's Representative the Contractor shall keep the site clear of all rubbish and debris including that which may be deposited on the site by other sub- contractors until the date of issue of certificate of completion. The cost of keeping the site clean shall be deemed to have been included for in the rates.

On completion of the works, the Contractor shall at his own expense clear away and remove from the site not later than 7 days from the date of completion of works all constructional plant, surplus materials, rubbish and temporary works of every kind and leave the entire site and works clean and in a workmanlike condition to the satisfaction of the Employer's Representative.

14.0 (i) Office Accommodation for Contractor, Employer/ Employer's Representative and Visiting Officials

The Contractor shall provide and maintain all necessary office/s, workshops, stores, shelters, sanitary facilities, canteens and other temporary buildings for themselves and their staff at site to the approval of the Employer's Representative.

Within 30 days of the date of the work order/handing over of site the Contractor shall also provide without any extra cost office accommodation of approx. 30Sqm. for the Employer's Representative, inspecting officials and Meeting Room with attached Toilets. The office spaces shall be well lighted and cooled and shall be provided with adequate number of electric lights, plug points, ceiling fans, water cooler and Air-conditioners and all required furniture and fittings including cabinets and drawing stands. The layout and detail plan of all temporary office accommodations to be built at the site shall be to the approval of the Employer/ Employer's Representative.

All layout and detail plan of all temporary office accommodation to be built at the site shall be to the approval of the Employer's Representative.

All such facilities shall be removed at the completion of project or shifted/removed at any later date as directed by the Employer's Representative. All expenses for maintenance of the above facilities as well as running expenses shall be borne by the Contractor at no extra cost.

(ii)Telephone

The Contractor shall maintain one telephone at site at his own and shall pay all bills for calls and maintenance. The Telephone shall be installed by the Contractor and the Contractor shall allow the use of the telephone to all other contractors/sub-contractors engaged on the works, and may recover proportionate call charges from them. He shall also allow free use of one telephone to the Employer's Representative and other visiting officials for phone calls in connection with the works.

(iii) deleted

15.0 Lighting for Works

The Contractor shall at all times provide adequate and approved lighting as required for the proper execution and supervision and inspection of the works.

16.0 Site Instruction Book

The Employer's Representative shall maintain a site instruction book on the site in which he or his authorized representatives remarks, instructions, decisions and other essential details, of the work shall be recorded. The Contractor shall regularly note the contents of this book and initial if signifying his having done so and take immediate action on the same. The book shall not be removed from the Employer's Representative office.

17.0 Progress Report

The Contractor shall submit monthly progress reports indicating status of each activity planned for the period under consideration and summary of each completed and planned activity and the anticipated starting dates for activities planned but not in progress, schedule of materials including the details of materials received and Expected Time of Arrival (ETA) of other materials as ordered and such other details affecting the programme and progress of work to the Employer's Representative in a form as required by him which shall also include reasonable number of progress photographs of the works.

18.0 Site Meetings

Progress and quality evaluation meetings will be held at the site every week. The Contractor's senior representative in charge of the project alongwith his site-in-charge and other staff including of approved Sub-Contractors and suppliers as required shall participate in these progress review meetings and ensure all follow up actions.

19.0 Return of Plant

The Contractor shall supply to the Employer's Representative a monthly return showing full particulars on a form, to be approved by him of the items of plant including location and state of each and the sections of the works on which they are employed. This return is to be presented before the 10th day of each month.

20.0 Contractor to Verify Site Measurements

The Contractor shall check and verify all site measurements whenever requested by other Specialists Contractors or by nominated or other Sub-Contractors to enable them to prepare their own shop drawings and pass on the information with sufficient promptness as will not in any way

delay the work. A copy of all such information passed on shall be given to the Employer's Representative.

21.0 Hoardings

The Contractor shall at his cost put up a suitable hoarding of approximate size 4 m x 3 m in English and Hindi to a design to be approved by the Employer's Representative before the Commencement of Work. The board shall include the name of the Project, Owner/Employer's Representative, Architect/Consultant & the Contractor as directed by the Employer and shall be installed at a location with adequate frames and supports as approved by the Employer's Representative.

22.0 Statutory Obligations, Notices, Fees and Charges

(1) (a) The Contractor shall comply with and give all notices required by any act, any instrument rule or order made under any Act, or any regulation or byelaw of any local authority or of any agency which has jurisdiction with regard to the Works or with whose systems the same are or will be connected (all requirements to be so complied with being referred to in these Conditions as the statutory requirements).

(b) If the Contractor shall find any divergence between the statutory requirements and all or any of the contract documents or any variation instruction issued in accordance with these Conditions. He shall immediately give to the Employer's Representative a written notice specifying the divergence.

(c) If the Contractor gives notice under paragraph (b) of this sub-clause or if Employer's Representative shall otherwise discover or receive notice of a divergence between the statutory requirements and all or any of the contract documents or any variation, instructions issued in accordance with these Conditions, the Employer's Representative shall within 7 days of discovery or on receipt of a notice, issue instructions in relation to the divergence, if and insofar as the instructions require the works to be varied, they shall be deemed to be Employer's Representative instructions issued in accordance with these conditions.

(d) (i) If in any emergency compliance with paragraph (a) of this sub-clause requires the Contractor to supply materials or execute work before receiving instructions under paragraph (c) of this sub-clause the Contractor shall supply such limited materials and execute such limited work as are reasonably necessary to secure the statutory requirements.

(ii) The Contractor shall forthwith inform the Employer's Representative of the emergency and of the steps that he is taking under this paragraph of these conditions.

(iii) Work executed and materials supplied by the Contractor shall be deemed to have been executed and supplied pursuant to an Employer's Representative instruction in accordance with these Conditions provided that the emergency arose because of a divergence between the statutory requirements and all or any of the documents referred to in these Conditions or any variation, instructions issued in accordance with these Conditions, and the Contractor has complied with sub-paragraph (ii).

(e) Provided that the Contractor complies with paragraph (b) of this sub-clause, the Contractor shall not be liable to the Employer under this Contract if the works do not comply with the statutory requirements from the Contractor having carried out work in accordance with the documents referred to these Conditions or any variation instruction issued in accordance with Clause (d)(i) of these Conditions.

(2) The Contractor shall pay and indemnify the Employer against liability in respect of any fees of charges (including any rates or taxes) legally demandable under any Act, any instrument, rule or order made under any Act, law or any regulation or byelaw of any local authority or of any statutory or agency in respect of works.

(3) It shall be the Contractor's responsibility to obtain all licences, permits, etc. from the local authorities as required in relation to the execution of work at the site.

Any assistance which the owner renders to the Contractor in terms hereof or otherwise relative to the above matters, shall not for any cause afford a basis or defense to the Contractor for any of his obligations under the contract nor ground for extension of time for completion.

23.0 Bar-bending Schedule for reinforcement Work

The Contractor shall prepare a detailed bar-bending schedule for all R.C.C. work and get them approved by the Employer's Representative well in advance of Construction and copies of such approved bar-bending schedules shall be submitted to the Employer's Representative for their use.

24.0 Specialist Sub-Contractor

The Contractor shall employ an Architect for the detailed design, structural design etc. and get all the specialist works such as the Sanitary Plumbing & Drainage works, Electrical works such as DGs et, UPS, Fire Protection Works, False Ceiling, Aluminium works, Doors, Waterproofing works, HVAC, Lift, Medical gas etc. executed through approved specialist sub-contractors having requisite experience as per the section IV in the technical bid in the particular trade. The list of such specialist sub-contractors the contractor proposes to use shall be submitted with his tender along with

details of their experience and on approval by the Employer's Representative the particular sub-contractor only shall be appointed for carrying out the work. The Employer/ Employer's Representative shall have the right to reject any specialist sub-contractor proposed in which case the contractor shall get the work executed by another specialist sub-contractor who meets with the approval of the Employer/ Employer's Representative and no claim by the Contractor regarding this aspect shall be entertained.

25.0 Shop Drawings

The Contractor and/or his approved sub-contractors shall prepare shop drawings for specialist trades such as Sanitary & Plumbing, Electrical & Mechanical works, Fire Protection Works, False Ceiling, Aluminium Doors & Windows, removable partitions and any other item as stipulated in the specifications in respect to the requirement under the contract. The shop drawings shall follow the design and detailing requirements as indicated in the Architect's drawings, specifications and Bill of Quantities and shall incorporate the fabrication details as proposed by the Contractor/Sub-Contractors, the features and exact conditions as available at the site of construction, any aspect related to coordination with other disciplines which might interfere with the proper installation of his work and any other details that the Employer's Representative might stipulate. Three copies of these shop drawings shall be submitted by the Contractor to the Employer's Representative. The Employer's Representative shall at his earliest convenience forward 2 copies of shop drawings to the Employer / Architect for their comments/approval. On receiving such comments/approval in general from the Employer's Representative, one copy of the approved shop drawing shall be forwarded to the contractor by the Employer's Representative. On receiving the final approval on the shop drawings, further work on the item shall be proceeded with by the Contractor. The Contractor shall submit these shop drawings to the Employer's Representative sufficiently early and well in advance to order for procurement of materials at site considering the overall time schedule to allow the Employer's Representative reasonable time to scrutinise the drawings and get it reviewed before further processing by the Contractor. Any plea of delay on this aspect by the Contractor shall not be entertained.

The Employer's Representative approval of fabrication working details and shop drawings, however, shall not relieve the contractor of his responsibility for errors and incorrect setting out and co-ordination between the trades or disciplines. The Architect's approval shall be in general and not intended to serve as a check and shall not relieve the contractor from furnishing the materials and performing the works as required by the Drawings and specifications.

Should the Contractor prove unable to produce satisfactory "Shop Drawings" or be unable to produce drawings to conform to the progress of the work, the Employer's Representative

reserves the right to take whatever steps are necessary to have drawings undertaken by others and debit to the contractor's account.

Any decision taken by the Employer's Representative to have shop drawings produced elsewhere shall not relieve the Contractor of his contractual obligations and the contractor must provide to the Employer's Representative all necessary details, physical dimensions, descriptive literature of all equipment and materials to be incorporated on drawings within 10 days of a request from the Employer's Representative. No extension in contractual delivery time shall be allowed on account of the time consumed in submission and reviewing of defective drawings and resubmission of the drawings after being incorporated with the comments of the Architect.

26.0 As Built Drawing

The Contractor shall furnish 3 sets of drawings "as erected" and approved by different statutory authorities in accepting the work in its entirety and completion

(i) As built and Record Drawings

Before the works for any Section thereof are completed in accordance with clause 48 hereof, the Contractor shall furnish to the Employer all operating and maintenance instructions/manual/technical catalogues together with as-built drawings of the works as completed, in sufficient detail in the opinion of the Employer's Representative to enable the Employer to maintain, dismantle, reassemble and adjust all parts of the works. The Contractor shall submit the as-built drawings and record drawings for whole of the works including civil works, plumbing, drainage and water supply, electrical and all other services for approval of the Employer's Representative. Firstly, a set of draft drawing shall be submitted and on approval of which the final as built drawings shall be submitted and shall comprise each 3 prints and one reproducible of each drawing covering all essential information for proper and easy maintenance.

In addition to the above, the contractor shall also submit E & M and B& R inventories and warranty/guarantee certificates for the electrical/ mechanical equipments.

The works shall not be considered to be completed until such approved instructions, manuals, drawings have been supplied to the Employer. Cost or charges for the purpose shall be included in the price for relevant work.

Operating & Maintenance instructions and list of Spares

The Contractor shall submit to the Employer's Representative for approval, as early as possible before dispatch of any equipments etc. general instructions namely operations and maintenance instruction manuals concerning the correct manner of assembling, operating and maintaining the work with

special references to any recently developed features. This instruction manual shall be submitted, immediately following approval of the drawings together with the lists of spare parts separately. The contractor shall also quote for the Operation of utilities during the warranty period and rate for the Operation and maintenance of utilities installed in the building after the warranty period. This will not be considered for tender comparison purpose.

The manual shall be submitted for approval in the same manner as the drawings and when finally approved, copies shall be prepared and forwarded to the Employer's Representative. The Contractor shall ensure that the erection supervisor has a copy in his office at site.

The instruction manual shall describe in detail the erection procedure and the use of all erection equipment and measurement devices. The procedure for assembling, adjusting, operating and dismantling of each component, system and machine shall be described and illustrated. The maintenance of each component shall be described including the recommended frequency of inspections and lubrication.

The Contractor shall, in preparing the instruction manual, take into account the lack of experience and familiarity of the operating personnel with this type of equipment.

The Contractor shall be fully responsible for ensuring that all plant and materials supplied under this contract are suitable for use under local climatic conditions.

27.0 Photographs of Works Carried Out

The Contractor shall every month supply at his own cost a reasonable number of post card size clear coloured photographs of the works carried out from time to time as per the instructions of the Employer's Representative. In the event of any dispute or termination of the contract either by the Employer or the Contractor as provided, the Contractor shall arrange to obtain photographs of the works completed in A-4 size upon the date of such termination of contract.

28.0 Approved Makes

The specifications provide a list of approved makes of some materials specified. The Employer's Representative has the right to choose any of the approved makes from the list, which according to him is the best and most suitable for the purpose. The tender price quoted shall cover for this aspect. Only when it is not possible to use any of the approved makes, either due to non-availability or due to technical reasons, the Contractor shall propose alternative materials and if found suitable these shall be approved by the Employer's Representative for construction but without any extra cost to the Employer.

Termination

If, the Contractor failing to complete the works within the stipulated period of completion, the Employer may, notwithstanding anything contained to the contrary in the contract, terminate at any time the contract, without being liable in any manner whatsoever to the contractor by 14 days' notice in writing to the contractor and proceed to complete or get completed the works which have remained incomplete/not done at the time of such termination, at the risk and cost of the Contractor.

Issue of Extra Construction Drawings

Extra prints of drawing for construction shall be issued for client's record. This shall be in addition to the as-built drawings.

31.0 GENERAL

31.1 Unless provided otherwise the work shall be carried out as per printed CPWD Specifications for Works 2009 (for Civil) Volume I & II, CPWD Specifications for Heating Ventilation & Air Conditioning (2004), CPWD Specifications for Electrical Works Part I (Internal - 2005), Part II (External – 1994), Part III (Lifts & Escalators - 2003) Part IV (Sub Station - 2007), Part V (Wet Risers & Sprinkler System - 2006) & Part VII (DG Sets - 2006) with upto-date correction slips.

32.0 SPECIALIST AGENCIES

32.1 Agencies to be engaged by the main contractor shall have to fulfil the eligibility criteria laid down below and they shall be engaged only with the prior approval of the Engineer-in-Charge.

32.2. If the main contractor fails to associate with or engage specialist agencies for execution of works listed from serial number 3 onwards in clause 2 of NIT within prescribed time or furnishes incomplete details or furnished details of ineligible agencies even after the tenderer is given due opportunity, the entire scope of such component of works shall be withdrawn from the tender and the same shall be got executed by the Engineer-in-Charge at the risk and cost of the main contractor.

32.3. In case the main contractor intends to change any of the agencies so engaged during the operation of the contract, he shall obtain prior approval of Engineer-in-Charge. The new agency/agencies shall also have to satisfy the laid down eligibility criteria. In case engineer-in-charge is not satisfied with the performance of any agency, he can direct the contractor to change the agency executing such items of work and this shall be binding on the contractor.

32.4. Same milestones shall be applicable for all components of work. The agencies so engaged will ensure that their components of the work are executed in time without giving any chance for slippage of milestones of the project. The amount to be withheld under Clause 5 of the contract will be decided by the Engineer-in-Charge. In the event of not achieving the necessary milestones as assessed from milestone bar chart, specified percentage of the tendered value of work will be withheld for failure of each milestone.

32.5. Specialist Agencies for works listed from serial number 3 onwards in the NIT, shall meet the eligibility criteria laid down herein and shall be employed with the prior approval of the Engineer-in-Charge.

Architect

The Architect or one of the Directors in the case of an Architectural Firm shall be registered with the Council of Architecture and shall provide comprehensive architectural consultancy on the basis of the concept plans appended to this tender document.

Internal Electrical Installation:

The Specialist Agency should have satisfactorily completed under their own name at least two internal electrical installations for similar buildings each costing not less than 1.50 crores (at least one of them in Central Government/Central Government Autonomous Bodies/Central Government PSUs) during last five years ending last day of the month of May 2016. Certificate of satisfactory completion/commissioning and working of the plant with date of completion, value as per final bill paid duly certified by authorized official not below the rank of Executive Engineer/ Project Manager to be enclosed. They should have a valid electrical license of applicable class issued from the State Govt. of Puducherry.

SECTION II

LIST OF APPROVED MANUFACTURERS / AGENCIES

Services / Materials to be consumed in the work shall be of the following manufacturers / agencies. In case the required materials / services are not available or the materials / services available with the manufacturers / agencies mentioned below do not meet the specifications (decision of the E-in-C in this regard shall be final & binding), the contractor shall obtain materials / services from the manufacturers / agencies approved by the E-in-C in writing.