Office of the Director
INDIRA GANDHI INSTITUTE OF MEDICAL SCIENCES SHEIKHPURA, PATNA – 14
(Autonomous Institute of Govt. of Bihar)

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NOTICE INVITING TENDER/QUOTATION

No.-IGIMS/EW/E- Tender/84 / 2015-16

Only through E tendering process on web site www.eproc.bihar.gov.in

Percentage rate/item rate tender in two bid system (Technical and Price bid) is invited from eligible and qualified firms/ companies/ contractors for the following electrical works. Intending bidders must be registered with e-procurement cell on www.eproc.bihar.gov.in . Prospective Bidders may contact telephone no. 0612-2523006/7542028164 in case of any difficulty in registration process. After registration bidder will get User I. D., password and digital signature through which he may participate in e- tendering process.

Serial No.	Name of work	Estimated cost ₹	Tender Processing fee ₹	Cost of blank tender /BOQ ₹	Earnest Money Deposit ₹	Time of completion of the work
1	Establishing additional 1000 KVA power substation to meet the urgent requirement of Hospital at IGIMS Patna-14	10266200	5725.00	10000.00	205324.00	120 days
2	Plan Design, supply , Installation Testing and Commissioning of following lifts at IGIMS i) 1360 kg Bed cum 20 passenger capacity lift 4 stops and 4 openings, travel speed of 1 MPS (Make-ThyssenKrupp/OTIS/ MITSUBISHI/ KONE) as per details of scope of work, including complete associated civil work (Annexure- I) , electrical work (Annexure-II) , required mechanical work as per detailed specification of lift (Annexure -III and special terms and condition for the work sr. no. -2 in the tender) at Polyclinic Block IGIMS Patna-1 ii) 1080 kg Bed cum 16 passenger capacity lift 2 stops and 2 openings, travel speed of 1 MPS (Make-ThyssenKrupp/OTIS/MITSUBISHI/KONE) as per details of scope of work, including complete associated civil work (Annexure- IV), electrical work (Annexure-V) and required mechanical work as per detailed specification of lift (Annexure -VI and special terms and condition for the work sr. no. -2 in the tender) at OPD Block IGIMS Patna-14	7083026	5725.00	10000.00	141661.00	240 days
3.	Supplying, fixing and commissioning of Power distribution panel in diagnostic block ground floor.	1779750	1145.00	5000.00	3595.00	20 days

Time Schedule is as follows: All these processes will be done only on www.eproc.bihar.gov.in

1. Date and time up to which Tender forms can be downloaded online — 21/01/2016 to 11/02/2016
2. Date and time for pre bid meeting — 25/01/2016 at 15.30 hrs
3. Date and time of online & hard copy Submission of Tender — on or before 12/02/2016 till 15.00 hrs
4. Probable date, place & time of opening of Technical Bid — 15/02/2016 at 15.30 at IGIMS
5. Date / place of opening financial bid — Date /Time will be announced and uploaded only on web site – www.eproc.bihar.gov.in and www.igims.org
   Individual letter shall not be sent to participating bidders.

Sd/-
DIRECTOR
IGIMS PATNA-14

A. Terms and condition:

1. ***a) Tender processing fee(Nonrefundable) is mandatory to be paid through online mode i.e. Internet Payment Gateway(Credit /Debit Card) , net banking , NEFT/ RTGS***

   b) Bids along with necessary online payments must be submitted through e-Procurement portal www.eproc.bihar.gov.in before the date and time specified in the NIT. The department doesn't take any responsibility for the delay/Non Submission of Tender/Non Reconciliation of online Payment caused due to Non-availability of Internet Connection, Network Traffic/Holidays or any other reason."

2. ***Cost of B.O.Q (nonrefundable) and Earnest Money Deposit (Refundable) shall be acceptable in the form of Demand Draft of any nationalized bank in favour of Director IGIMS Patna payable at Patna, of any nationalized bank having branch at Patna, with hard copy of technical bid being submitted in the office of the Director IGIMS Patna-14.***
3. ***Bidders also has to submit sealed envelopes containing hardcopy of Technical bid and Price bid in two separate envelopes super scribed as "Technical Bid for the Tender no IGIMS/EW/E- Tender/84/2015-16 sr. no. 1 or sr no 2 " and "Price Bid" containing in third envelope. This must reach to the office of the undersigned through Registered post/ Speed post/Courier Services only on or before the last submission day and time of tender. IGIMS takes no responsibility for the delay or loss in transit of any document related to this Tender Notice.***
4. ***IGIMS reserves the right to reject the lowest or in part any bid or all bids without assigning any reason.***
5. ***Bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their tenders on his own cost, to acquaint themselves from the nature of the work and nature of the ground and sub-soil, the form and nature of the site, the means of access to the site, the volume of work involved, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their work tender. The bidder shall be deemed to have full knowledge of the site, nature of work etc, whether he inspects it or not. It is to note that and no extra charges for complete work either in civil , electrical or mechanical work, etc will be paid to the contractor. Any misunderstanding or otherwise shall be allowed.***
6. ***With a view to provide clarifications, if any on the technical and commercial aspect of the tender to the prospective bidders, IGIMS shall hold a Pre-Bid meeting at IGIMS conference hall Patna -14 as per schedule indicated in NIT. In light of above said objective prospective bidders must ensure that they or their authorized representative attend the same as per schedule. In case of any query the prospective bidder should submit it in pre bid meeting which can be discussed in the meeting.***
7. ***All the prospective bidders are advised to go through the minutes of the pre bid meeting if any which shall be uploaded to the Institutes web site as well as at*** for any clarification etc before ***submitting the bid. No clarification or query shall be entertained after this pre bid meeting.***
8. ***The work to be awarded by this tender shall be treated as indivisible works contract.***
9. ***IGIMS reserves the right to inspect the works intimated to have been completed by the applicant and reject any prospective application without assigning any reason.***
10. ***The tender for the works shall remain open for acceptance for a period of 180 days from the date of opening of tenders.***

11. ***Completion period***

    The completion period indicated in the tender documents is for the entire work of planning, designing, supplying, installation, testing, commission and handing over of the entire job to the satisfaction of the Engineer - in - charge.

12. ***Warranty***

    All the items covered in the BOQ, shall carry minimum twelve months Onsite Comprehensive Warranty, commencing from the date of completion of entire job. The after – sales service support / warranty services has to be provided at IGIMS, Patna-14. The repairing / rectification, if any of the items under warranty must be done at site only within 24 hours.

13. The bidder should submit along with the technical bid, the detailed plan for providing installation and warranty services at site. Prompt and efficient after sales service must be free within the warranty period.

14. The bidders name, dated signature & seal should appear on each page of the Tender Document in the hard copy.

15. ***The bidder shall be responsible for the delivery of the material/ equipment to site and shall include in his bid all the necessary arrangements for transport, loading and off-loading (including cranes, lifting tackles, wire rope, winches, slings, etc.). All the necessary arrangement along with material for installation, testing and commissioning to complete the work will be contractor's responsibility. IGIMS will not accept any claims for additional costs in this regard.***

16. If the contractor or his workmen or employees shall break, deface, injure, or destroy any part of a building, road kerb, fence, enclosure, water pipes, cables, drains, electric or telephone posts, wires, etc. The contractor shall make the same good at his own expenses. IGIMS may cause the same to be made good by other workmen and deduct the expenses of which IGIMS decision is final.

17. Safety

The successful bidder shall follow the Safety Code and Model Rules for the Protection of health and sanitary arrangement for Workers.

18. The quality of all the materials to be utilized by the successful bidder must be get approved by the Executive Engineer Electrical before utilizing it.

19. The successful bidder has to submit daily progress report and submit the measurement of the work to the Executive Engineer Electrical while execution of the work.

20. Eligibility Criteria:

a) The bidder should have successfully carried out at least one of the following in the last three years. Details should be submitted as per Performa- II.

i) Either three similar completed works each costing not less than the amount equal to 40% of the estimated cost put to tender.

OR

(ii) Two similar completed works each costing not less than the amount equal to50% of the estimated cost put to tender

OR

(iii) One similar completed work of aggregate cost not less than the amount equal to 80% of the estimated cost put to tender.

b) Bidder should be having all the necessary documents (as per Pre-Qualification details asked in enclosed Performa I) like Service Tax, VAT, PAN etc. He must enclose and up load the proofs of these document.

21. This Notice Inviting Tender (NIT) shall form a part of the contract document. The successful bidder/contractor, on acceptance of his tender by the Accepting Authority, shall, sign the contract agreement within 15 days from the stipulated date of start of the work.

22. The contractor shall submit the program for execution of work, get it approved from the Engineer-In-Charge and strictly adhere the same for the timely completion of the project work before start of the work.

23. The rate for all items of work, shall include the cost of all labour, materials and all other inputs involved in the execution of the complete work and nothing extra on any account will be paid to the agency other than his quoted rates.

24. While installing or commissioning the contractor or his authorized representative should always be available at the site of work to take instructions from department officers and ensure proper execution of work.

25. The contractor shall maintain in good condition all work executed till the completion of entire work allotted to the contractor. No payment will be made to the contractor for damages caused by rains, floods or any other natural calamity, whatsoever during the execution of the work. The contractor shall be fully responsible for any damage to the Owners property and to the work for which the payment has been advanced to him under the contract during the execution of the works.

26. The malba /garbage, removed from the site shall be disposed off by the contractor at any suitable place as directed by the Engineer-In-Charge.

27. Material must be properly packed against any damage and insured up to the destination. The material should be directly dispatched to the installation site at IGIMS, Patna -14.

28. All the expenses involved in delivering, unloading etc. the equipment at our site, shall be borne by the Bidder. All aspects of safe delivery shall be the exclusive responsibility of the Bidder. IGIMS will have the right to reject the component/equipment supplied, if it does not comply with the specifications at any point of installation, inspection and testing, EMD is liable to be forfeited and bid is liable to be rejected, if the bidder withdraws or amends impairs or derogates from the tender in any respect within the validity period of the tender.

***29. If any equipment/material or part thereof is lost or rendered defective during transit, the supplier shall immediately arrange for the replacement of damaged equipment or part thereof, as the case may be, at no extra cost*.**

30. ***Rates should be quoted towards Supply at site, Unloading, Erection, Commissioning, Testing and Maintenance of Supplies / Materials given under BOQ, accordingly by giving the basic price, VAT, Service Tax, etc. wherever applicable.***

31. Along with slandered deduction, 1% labour cess will be deducted of the completed work as per prevailing Bihar state government rules.

32. IGIMS shall have the sole right to assess the performance of the tendered equipment(s) /components, primary / intermediate and or final, and reject the same without assigning any reason / explanation to the bidder if the performance is found to be unsatisfactory. The decision of IGIMS will be final and binding on the contractor.

33. Price basis should be FOR IGIMS Patna only. The quoted price will be considered firm and no price escalation will be permitted.

34. SECURITY DEPOSIT

The amount of Security Money shall be 10% (Ten Percent) of the work order Value- and deduction/deposit shall be made in following manner.

- ***a- Initial Security Deposit of (Five Percent) of the accepted/agreed value, which has to be deposited by the contractor through D. D. payable to Director IGIMS Patna and remain with IGIMS till expiry of warranty period.***
- ***b- Balance 5% (Five Percent) Security Money shall be deducted from each running account bill of work done under this work order.***

35. Security deposit shall be refunded after expiry of warranty period (12 months from the date of completion of work order) provided, there are no defects in work and removed all surplus material, rubbish from site. The Security deposit shall be totally non-interest bearing and the bank guarantee, if furnished, shall also not entail any liability towards bank interest, money or bank charges etc. on IGIMS.

36. Payment

The payment will be released after satisfactory completion of complete works as per agreement through Measurement book. Security deposit will be released after two months beyond warranty period. All the payment shall be made on actual measurement basis.

37. Penalty for Delayed Services

Penalty shall be charged @0.01% of the contract value per week subject to maximum of 10% of total order value, in case of delay beyond the stipulated period.

38. The contractor shall clear the site thoroughly of all scaffolding materials and rubbish etc. left out of his work and dress the site around the building to the satisfaction of the Engineer before the work is considered as complete.

39. The quoted rate shall be complete in all respects including the cost of all materials, labour, tools & plants, machinery etc. IGIMS shall not be supplying any material, labour, plant etc.

40. The contractor has to ensure co-ordination with Institute authorities to maintain the smooth functioning / operation of existing Institute timing without disruption during the execution of work. This may require working rescheduling the normal working hours, working in restricted period etc. Nothing extra shall be payable on this account.

41. Stacking of materials and excavated earth including its disposal shall be done as per the directions of the Engineer-in-Charge. Double handling of materials or excavated earth if required shall have to be done by the contractor at his own cost.

42. In the case of any tender where unit rate of any item/ items appear unrealistic, such tender will be considered as unbalanced and in case the bidder is unable to provide satisfactory explanation such a tender is liable to be disqualified and rejected.

43. On account of security consideration, some restrictions may be imposed by the security staff on the working and movement of men and materials etc. The contractor shall be bound to follow all such restrictions/ instructions and he shall organize his work accordingly. No claim on this account, whatsoever, shall be payable.

44. The contractor shall be responsible for completing the work and for satisfying all terms and conditions of the Contract without any extra payment over his quoted rates unless otherwise specified. The contractor shall quote his rates for various items of work accordingly and no claim whatsoever shall be entertained for any incidental or extra work involved in the execution of the work as per nomenclature of the item and the specifications indicated in the tender documents.

45. Technical Bid shall contain:

a) Non-Refundable cost of B.O.Q. amounting to the respective Column and work of this NIT in the form of crossed DD drawn on any nationalized bank in favour of "Director IGIMS" payable at Patna.

b) Refundable Earnest Money Deposit (EMD)amounting to the respective Column and work of this NIT in the form of crossed DD drawn on any Nationalized bank in favour of "Director IGIMS" payable at Patna.

Tenders without cost of BOQ & EMD shall be rejected without any notice.

In addition to above the following documents are to be uploaded and hard copy should be submitted in the Technical bid.

A. Forwarding letter clearly indicating the documents attached therein submitted in the first cover.

B. Attested copy of Registered Partnership deed if the tenderer is a partnership firm and power of attorney.

C. Permanent Account Number of the tenderer issued by the Commissioner of Income Tax.

D. Attested copy of valid VAT Certificate issued from Sales tax Department.

E. Attested copy of Valid Electrical Contractor License issued from Govt. department.

F. An Annual Turnover certificate from the registered Chartered Accountant of at least equal to the amount equal to the estimated amount of the work for last three years.

G. Details of works of similar type and magnitude carried out by the Contractor in Last 3 Years.

H. Details of technical personnel available with contractor

I. Attested Copy of List of Tools, Plant and Machinery Immediately available with the Tenderer for use on the respective work for which prospective bidder is submitting the tender.

J) Duly filled Prequalification Criteria as per enclosed Performa I & II along with all the supporting documents must be uploaded at www.eproc.bihar.gov.in and hard copies submitted at the Director Office.

K) The Bidder should submit a self-attested certificate that it has not been blacklisted, debarred, declared non-performer or expelled by Union Govt/State Govt / PSU's during the last 5 years. In the absence of Certificate, the Bid is liable to be rejected.

46. Special terms and condition:

a) FRLS wiring shall be used everywhere inside/outside all panels/equipment/building.

b) Copper material (strip, plate, etc.) shall have conductivity greater than 95% in all applications.

c) Each Earth conductor (for earthing) shall not left bare it will be through ISI mark PVC pipes to avoid corrosion & mechanical injuries.

d) All meters of whatever type shall be of digital type unless & otherwise specified.

e) 11 KV HT panel and 440 Volt LT panels shall be of 16 SWG CRCA sheet with 7 tank treatment process.

f) Failure on the part of the client to inspect or to reject after inspection any work, which later proves to be defective, shall not relieve the Contractor from warranties, commitments and obligations, which he undertakes under this contract. The Contractor is solely responsible for the accuracy, quality and completeness of his work and supply.

IGIMS at his discretion shall order re-inspection of the whole / part of the material found faulty during inspection. The Contractor shall attend to all the comments noted by IGIMS.

g) The Contractor shall include and provide for securely protecting and packing the equipment in accordance with the best established practices so as to protect the contents from damage during transit, storage, exposure to heat, moisture or rain.

Notwithstanding the above, the Contractor shall be entirely responsible for loss, damage or deterioration to the materials occasioned by faulty, defective or insecure packing.

h) If required obtaining approvals from Electrical Inspector, Local Electricity Supply Authority and all other statutory authorities for the complete scope of work is contractor's responsibility. It is not the intent to specify completely here in all aspects of design and constructional features of equipment and details of the work to be carried out nevertheless, the equipment and work

shall conform in all respects to high standards of engineering, design and workmanship and shall be capable of performing and continuous commercial operation in a manner acceptable to the owner who are interpret the meaning of the specifications and drawing and shall have right to reject or accept any work or material which in his assessment is not complete to meetings requirement of these specifications and or applicable codes and standards mentioned elsewhere in these specifications.

i) All sundry fittings, assemblies, accessories, hardware items, foundation bolts, termination lugs for electrical connections as required, and all other sundry items which are useful and necessary for proper assembly and efficient working of the various components of the work shall be deemed to have been included in the tender, whether such items are specifically mentioned in the tender documents or not.

j) Engineer-in-Charge and authorized representative shall have at all reasonable times access to the Contractor's premises or works and shall have the power at all reasonable time to inspect and examine the materials and workmanship during its manufacturer or erection or if part of works is being manufactured or assembled at other premises or works.

k) The Contractor shall arrange all the materials and labour required for inspection of equipment or for any testing to be carried out at his works or at site. Notice for such inspection/presence for testing shall be given to the Engineer-in-Charge by the Contractor at least fifteen (15) days in advance.

l) Notwithstanding approval of tests or equipment by the Engineer-in-Charge the contractor shall be required to perform site tests and prove the correctness of ratings and performance of equipment/machinery and materials supplied and installed by the contractor as per the contract specifications and conditions. Engineer-in-Charge shall reserve the right to reject any equipment/machinery/material should it, on tests after erection, be found not to comply with contract specifications. Engineer-in-Charge shall have full power to order the material or work to be tested by an independent agency at the electrical Contractor's expense in order to prove soundness & adequacy.

m) All quantities indicated in BOQ are tentative which may vary as per site conditions. Contractor has to verify quantities before procuring the material.

n) All materials and equipment shall be brand new. On arrival of the materials at site they shall be inspected and tested by the Engineer-in-Charge and his representative shall at all reasonable time have free access to the site of assembly. They shall have full powers to examine the materials and workmanship of the equipment at the contractor works or at any other place from where the material or equipment is obtained. The contractor shall give every facility to the engineer-in-charge and his representatives and necessary help for inspection, examination & testing of the materials. Original test certificates of the manufacturer's shall be submitted by the Contractor for all major equipment before they are accepted by the Engineer-in-Charge. Acceptance of any material or equipment shall in no way relieve the Contractor of his responsibility for meeting the requirements of the contract.

o) Electrical work done under this contract shall be executed by licensed men under the supervision of licensed electrical supervisor as per the Indian Electricity act.

p) Contractor shall obtain the approval of all electrical installation done under this contract from the appropriate competent authority before the installation and commissioning if required as per rules.

q) All tools and tackles required for handling of equipment and materials at site of works as well as for their assembly, erection, commissioning and also necessary test instruments shall be the responsibility of the contractor.

r) The Contractor shall provide for the tendered equipment comprehensive warranty for parts as well as labour for a period of 12 months from the date of successful installation & commissioning of the equipment at Purchaser's site at no extra charges against any manufacturing defect/faulty workmanship. In case any defect arises during warranty period, the Contractor should replace/rectify the same at its own cost at site/works.

s) Bidder will quote and upload their lowest for schedule items in percentage and lowest item rate for non-schedule items in the format of BOQ attached rate in the separate envelope of Price bid.

t) A Detailed Bar Chart shall be submitted by the contractor before actual commencement of the work The tendered rates/prices for the work shall be deemed to include the cost of preparation, supply and delivery of all necessary drawings, prints, tracings and negatives which the Contractor is required to provide in accordance with the contract

B. Special terms and condition for the work sr no 2 in the tender : SITC of Lifts at IGIMS

TECHNICAL SPECIFICATIONS:

1. GENERAL

a) The specifications and dimension in the Technical sheet of lift, has been provided for tendering purpose with the tender documents and shall be used as a reference only. Contractor should measure the exact actual dimension and visualize the nature of type of work contemplated and to ensure that the rates and prices quoted by him in the bill of quantities take due consideration of the complexities of work involved during actual execution/construction as experienced Contractors in the field

b) These specifications are intended to cover the work of Design, manufacture, testing of works, delivery to site and on site erection, testing and commissioning. All the electrical and mechanical equipment to be provided should be designed and manufactured to withstand severe environmental conditions of typically hot and humid climate, with corrosive atmosphere. The manufacturers of the equipment should consider the following typical weather condition in this regards. Maximum ambient temperature -45 Centigrade, Maximum relative humidity 98%

2. SCOPE OF WORK

The work which is the subject of this tender shall include the following:-

a) All the works whether civil, electrical or mechanical required for completion of the work is under scope of the contractor. IGIMS will hand over the lift wells and its machine room on as and where is basis, at both blocks to the contractor. Contractor has to complete the work in all respect and hand over the operating lifts To IGIMS as required.

b) Design, manufacture, testing of works and delivery to site of the lifts together with all necessary equipment complete in all aspect according to the specifications.

c) On site, erection, testing and commissioning of all the equipment including provision of expert supervision, services of skilled, semi skilled and unskilled Labour as may be necessary and supply of tools and all other materials and equipment as required.

d) All buildings civil works including casting of foundation of Motor at lift machine room, car resting foundation at lift pit, opening the trap door and making car landing making of openings/shearing of wall and floors of CC/Bricks Masonry and to restoring them to original conditions. Making of RCC/ PLC pads as required to support lift motor, gear box, controller etc, is included. Bracket supporting guide rail shall be fixed with the help of dash fasteners.

e) Supply and erection of steel joints and all ancillary steel work, connection with installation of Lift Machine and other equipment in the machine room.

f) Supply and erection of steel joists and ancillary steel works including support brackets, clamps etc. as may be necessary in connections with installation of car and counter guides, throughout the lift well.

g) All scaffolding that may be necessary in the lift well.

h) Necessary watch and ward arrangements of the material and equipment brought on the site, till the complete installation is handed over to purchaser for beneficial use.

i) Provision of temporary barricades in the openings at each landing during erection is necessary to prevent accidents.

j) Successful tender has to carryout fully comprehensive maintenance for one year after completion and commissioning of lift which will also include all defect liabilities.

3. DRAWING & DATE TO BE SUPPLIED

The tenderer shall furnish the details of the make of the lift, its specifications and other features along with the proposed date wise schedule of works with the technical bid of the tender.

This schedule should be complete and filled in, while submitting the tender.

i) The drawings showing the plan of installations of the lift car and counter weight.

ii) The drawings showing the plan of installations of lift machine, controller etc. in the machine room.

iii) Any other drawing(s) technical literature/photos/cut views etc. as may be considered necessary by him to demonstrate that the equipment offered by him and lay outs proposed meet the requirements of these specifications.

4. CONTRACT DRAWIANG AND DATA

After the acceptance of the tender, the contractor shall have to furnish all the following drawings and schedule dates separately for each lift.

i) The detailed drawings/date concerning major items of equipment e.g. Lift Machine, governing equipment etc.

ii) Drawing of Electrical connections showing the control scheme.

iii) A copy of which shall be placed in conspicuous position in the machine room.

iv) Instructions and service manuals in connection with erection of the equipment on completion of the work.

5. APPLICABLE STANDARDS/STATUTORY REQUIREMNENT

All works shall be carried out in accordance with relevant Indian Standards, wherever applicable and provision of I.E. Act 1910 and I.E.Rules 1956(as amended up to date).

Further, statutory requirements Mumbai Lift Act 1939, Mumbai Lift Rules 1958 as amended together with bye-laws of the Brihan Mumbai Municipal Corporation shall be strictly observed during execution and the installation.

The completed work shall have to be approved from relevant statutory authorities.

A list of the Indian Standards that shall be applicable is given below:

- a) 1860-1980 Code of Practice for installation, operation and maintenance of Electric passenger and goods lift.

b) 4666-1980 Electrical Passenger and goods lift.

c) 3534-1976 Outline dimension of Electric Lifts.

d) 7759-1975 Lift door locking devices and contacts.

e) 8216-1976 Guide for inspection of lift wire rope.

f) 9803-1981 Specification for buffers for Electric Passenger and goods lifts.

g) 2365-1977 Specification for steel wire suspension for Lift, Elevators and Hoists.

h) 1646-1982 Code of Practice for fire safety of buildings (General) Electrical installation.

i) 9878-1981 Specification for safety gears and Governor for Electric Passenger and Goods lifts.

j) 4281(Part I) Specification for flexible cables for lifts and other.

k) 10913-1984 Specification for brakes for Electric Lifts.

l) 11515-1986 Specification for car and counter weight guide shoes for Electric Lifts.

m) 11706-1986 General requirements of car frame for Electric lifts.

6. STANDARD AND SPECIFICATIONS

All the Electrical works shall be carried out as per
a) Relevant B.I.S. specification.
b) Indian Electricity Rules, 2003.
c) National Electricity Code.
All ISI License mark materials are generally will be approved. The Engineer-in-charge while using materials on works can check-up the validity of ISI license mark issued by "BUREAU OF INDIAN STANDARD" before allowing the material to be used on site.

If necessary the Engineer-in-charge can get the materials tested from BIS or any approved laboratory for verifying the required parameters of product. All other materials which do not bear ISI mark but are manufactured conforming to relevant BIS specification, should be approved for use on works by Executive Engineer (Electrical). Electrical layout for major works be finalized in consultation with Government Architect be used on the works shall have valid ISI mark granted by Bureau of Indian Standard.

7.Scope:

Planning, designing, supplying erecting installing testing and commissioning these lifts, with technical requirements of lift installation, its components, safety devices various type of controls and methods of operation. The selection of a particular type of control and method of operation will be guided by the requirements in individual case such as nature of building, usage, occupancy, traffic pattern, etc. and has to be decided in individual case considering quality and quantity analysis of service.

8. Recommended Standards:

The following list is for Indian Standards which are acceptable as good practice and accepted standards;

IS 14665 part I : Guidelines for outline dimensions of passenger, goods, service and hospital lifts.
IS 14665 part II : Code of practice for installation, operation and maintenance of lifts.
IS 14665 part III :
Safety rules IS 14665 part IV :
Components Development Control Rules: Of Concerned Corporation or Local Authority National Building Code 2005
Bombay Lift Act 1939 Bombay Lift Rules 1958
I.E. Rules 2003.

9. Other requirements:

a) *Electric Supply: Three phase, 50 c/s, 415 V electric supply shall be made available by IGIMS The entire lift equipments should be suitable for operation at +10% to - 20% of the rated supply voltage.*
b) *Geared machine: The lift machine shall be of worm gear reduction type with motor, brake, worm gearing and driving sheave and suitable for type of control specified.*
c) *Electric motor: Energy efficient Electric motor of suitable HP with class F insulation and S-4 duty cycle.*
d) *Car: As per IS 14665 part IV with MS Girders, bracings of adequate size and strength at the bottom and top with angle iron frame and side panels of S.S. sheet S.S. sheet of 18 gauge with mirror or hairline finish with safety factor more than 5 or latest better alternative.*
e) *Signals: FPI in car and CPI at all landings are to be provided with up / down direction indicators with call registration facility.*
f) *Variable Voltage Variable Frequency: Incoming mains AC power is first rectified to DC and then inverted to provide controlled AC current to the elevator drive.*
g) *Precision monitoring is required for motor speed, car direction, position and load to enable the pulse width of the AC power supplied to the motor and to be adjusted to ensure that elevator speed is maintained very accurately to an ideal profile. Energy saving through reduced power consumption should be achieved.*

h) Controls: Microprocessor based Control panel duly wired with proper size and strength of copper wire.

i) Control panel box: Control panel box of MS sheet of 16 gauge with duly power coated of MS sheet of 16 gauge.

j) Driving / traction pulley: Sheaves and pulleys shall be of hard alloy, cast iron, SG iron or steel and free from cracks, sand holes and others defects. They shall have machined rope grooves. The traction sheave shall be grooved to produce proper traction and shall be of sufficient dimension to provide for wear in the groove. The deflector sheave shall be grooved so as to provide a smooth bed for the rope.

k) Over speed governor: The car safety shall be operated by speed governor located overhead and driven by governor rope suitably connected to the car and mounted on its own pulleys. Governor shall be provided for lifts with a travel of more than 5.5 meters. The governor rope shall be not less than 6mm in dia and shall be made of steel or phosphor bronze. These shall be in accordance with IS 14665 (part 4lsec-4): 2001.

l) Electromagnetic breaks: The lift drive machinery shall be provided with an electro-magnetic brake or motor operated brake normally applied by means of springs in compression when the operating device is in off position. The brake shall be suitably curved over the brake drum or brake disc and provided with fire proof friction lining. The operation of brake shall be smooth, gradual and noiseless. The brake shall be designed to be of sufficient size and strength to stop and hold the car at rest with rated load. The brake should be capable of operation automatically by the various safety devices. . Suspension wire rope: Round strand steel wires ropes made from steel wire ropes having a tensile strength not less than 12.5 tones / cm2 and of good flexibility shall be used for lift. Lubrications between the strands shall be achieved by providing impregnated hemp core.

m) Guide rails: The guide rails shall be continuous throughout the entire travel and shall withstand without any deformation by the action of safety gear with a fully loaded car. Generally the guide rails shall be supported by brackets secured to the hoist way frame at each floor. The rails shall be securely fastened to the brackets or other supports by approved heavy rail clamps. Guide rails shall extend from pit floor to the underside of concrete slabs or grafting at top of the lift well. They shall be erected in plumb and parallel with a maximum deviation of 3mm.

n) Buffers: Buffers shall be suitable for installation in the space available. Buffer anchorage at pit floors shall be installed avoiding puncturing of water proofing. Oil buffers of the car and counter weight shall be of the spring return type or of gravity type. The contractor must indicate the name of buffer manufacturers, buffer stroke & certified maximum loads. Method of Construction: Bar chart shall be prepared as per tender condition and requirement. Lift hoist way measurement shall be done before finalizing the material quantity.

o) Drawing should be prepared according to tender specification considering hoist way size and permission from Lift Inspector for erection of lift should be taken prior to commencement of erection.

p) White wash in lift well shall be carried out by the contractor.

q) All the following works is in the scope of contractor:

- ***i. All civil work pertaining to front wall architraves internal / external plastering etc. shall be done by the contractor***
- ***ii. Prepare and install scaffolding and template by adjustment required.***
- ***iii. Brackets are to be erected and fixed in to plum line.***
- ***iv. Put the fasteners (16 mm dia x 100 mm) if the brackets are to be fixed on RCC wall / beam / lintel or fix rig bolts if brick work found in RCC.***
- ***v. After fixing brackets and guides with adjustment fix the car and counterweight***
- ***vi. Fix the landing door frame / door bottom with sill and suitable brackets to with stand the load of passenger / freight as per specification***

vii. *Fix metal trunking / PVC pipe as per IS requirement.*

viii. *Complete civil work such as fixing up hoist way, push button, buffers, machine room I beams for resting machine, foundation for control panel, making holes in bottom slab of machine room to pass traction rope, speed governor rope / wiring and complete finishing according to sizes and specification.*

ix. *Electrical wiring in lift shaft and supply cable shall be carried out from electrical agency as per requirement of lift rules by the contractor.*

x. *Fix machine with complete gear box unit, suitable rubber pad / anti vibrating pad, diverter if required with alignment as per norms.*

xi. *Fix the control panel at accessible height from floor level to inspect, connect, and operate easily. • Put wires in accordance with the control panel connection diagram according to colour code in metal trunking with insulating paper on all bends, corners. Metal trunking shall be duly earthed from top to bottom according to IS specifications.*

i. *Mid way junction boxes are to be fixed according to size but it should be marked by every wire with nos. (Ferrules) Traveling cables should be fixed with suitable hanger to take load of travelling cable and put extra wire of 20 % approximately*

ii. *Fix the car and counterweight frame according to sizes, adjustment of safety block wedges shoes as per requirement.*

iii. *Toe Guard Aprons: The toe guard apron of gauge not less than 1.6mm sheet steel may be provided extending at least 15mm beyond entrance jams at each side. The guards shall have a straight vertical face extending below the level of the finished car floor and not less than the depth of the leveling zone plus 7.5mm. It shall be seamed to car platform construction and be reinforced and braced.*

iv. *Car Apron, Landing Thresholds and Sills: An apron shall be fitted to the car platform such that no dangerous gap exist at any time when the landing door is opened, Thresholds and sill plates shall be provided at the landings also. The distance between landing sill and the sill on car platform shall not be more than 30mm.*

v. *Emergency Power Supply for lift car, fan and intercom system: This shall include suitable secondary battery with trickle/Boost charge arrangement and inverter power pack with necessary contactors for supply to light fixtures in the lift car, fresh air fan in lift car. The same battery shall also feed the alarm bell and communication equipment.*

vi. *Intercom system shall be provided in car to have communication in case of an emergency and shall be connected to re-chargeable battery supply.*

Xii. Ratings and Instructions:

Inside the lift car, the lift supplier shall also provide a stainless steel metallic plate indicating the rated load and detailed instructions for the passengers. This shall be mounted at a suitable place.

10. General:

a) Put main traction ropes from car to counterweight with rope tension adjustment.

b) Put counterweight i.e. of CI blocks in counter weight frame for suitable equilibrium.

c) Put car platform and car with adjustment.

d) Fix car door and panels / car push button/ fall ceiling light, fan.

e) Fix landing panels and put in lock in circuit.

f) Fix hoist way accessories like drum reels terminators, final limits, leveling

g) Removing the scaffolding.

h) Connect three phase supply from main switch along with earthing to controllers as per instruction given.

i) Wiring from controller to motor along with earth wire is to be completed.

j) Check motor / gear oil.

k) Start lift in maintenance mode.

l) Check adjustment of hoist way switch/ safety doors and check all parameters of shaft.

m) Put controller on normal mode.

n) Test run to be taken and & service inspection of lift with all safeties shall be done in presence of site in charge.

o) Pre commissioning work such as cleaning of shaft, pit etc shall be done.

p) After completion of work, NOC shall be obtained from lift inspector by the contractor before putting LIFT in to operational use.

q) Testing of Lift Installation: Tests at site:

i) Leveling Test:

Accuracy of the floor leveling shall be tested with the lift empty, fully loaded. The lift shall be run to each floor while travelling both in upward and downward directions and the actual distance of car floor above, below landing floor shall be measured. In each case there shall not be any appreciable difference in these measurements for levelling at the floors when the car is empty and when it is fully loaded. The tolerances for levelling shall be as per I.S.

ii) Safety Gear Tests:

Instantaneous safety gear controlled by a governor should be tested with contract load and at contract speed, the governor being operated by hand. Two tests should be made, however, with wedge clamp or flexible clamp safeties, one with contract load in the car and the other with 68 kg (equivalent to one person) in the car. The stopping distance obtained should be compared with the specified figures and the guides, car platform, and safety gear should be carefully examined afterwards for signs of permanent distortion. Counterweight safety gear should be tripped by the counter weight governor and the stopping distance noted. In this case, however the governor tripping speed may exceed that of the car safety governor but by not more than 10 %. During the safety gear tests, car speed (from the governor or the main sheave) should be determined at the instant or tripping speed with that stated in IS.

The governor jaws and rope should be examined for any undue wear.

iii) Contract speed:

This should be measured with contract load in the car, with half load, with no load, and should not vary from the contract speed by more than 10 percent. The convenient

method is by counting the number of revolutions, made by the sheave or drum in a known time, Chalk mark on the sheave or drum and a stop switch will facilitate timing but care must be exercised to ensure that no acceleration or retardation periods are included. If the roping is 2 to 1 the sheave speed is twice the car speed. Alternatively, the speed can be measured by a tachometer applied directly to shaft immediately below the sheave.

iv) Lift balance:

After the above test, some of the weight shall be removed until the remaining weights represent the figures specified. With this condition at half way travel the effort required to move the lift car in either direction with the help of winding wheel shall be as nearly as can be judged by the same.

v) Car and landing doors interlock:

The lift shall not move with any door open. The car door relay contact and the retiring release cam must be tested. The workings of the door operation and the safety edges and light equipment if any provided shall also be examined.

vi) Controllers:

The operation of the contactors and interlocks shall be examined and it shall be ascertained whether all the requirements laid down in the specifications have been met.

vii) Normal terminal stopping switches:

viii) These shall be tested by letting the car run to each terminal landing in turn, first with no load and then with contract load and by taking measurements, top and bottom overtravels can be ascertained.

ix) Final terminal stopping switches:

The normal terminal stopping switches shall be disconnected for this test. It shall be ensured that these switches operate before the buffers are engaged.

x) Insulation Resistance:

This shall be measured (after removing the electronic PCB's and their connection) between power and control lines and earth and shall not be less than 5 mega-ohms when measured with D.C. voltage of 500 volts. The test shall be carried out with contactors so connected together as to ensure that all parts of every circuit are simultaneously tested

xi) Earthing:

Earthing contin uity of all conduits, switches, casing and similar metal work shall be tested.

xii) Ropes:

The size, number construction and fastenings of the ropes should be carefully examined and recorded.

xiii) Buffers:

The car should be run on to its buffers at contract speed and with contract load in the car to test whether there is any permanent distortion of the car or buffers. The counter weight buffers should be tested similarly. Test report shall be intimated after testing at works.

xiv) Service Temperature Test:

A continuous run of one hour should be made with number of starts and stops to reproduce as nearly as practical the anticipate duty in service. (The standard duty cycle is for 180 starts per hour). It is very difficult in practice to carry out this test with alternate starts at full load and no load and it is necessary therefore to simulate these cycles. A suitable test for all motors except squirrel cage motors is to run the car up from the bottom landing with contract load and stop at each floor. From the top floor a nonstop run is made to the lowest floor and the upward journey with stop is then repeated. The time intervals between stops and starts at the floors should be uniform and such as to give about 150 starts in one hour. At the end of this run the temperatures of the armatures and fields of the motor and generator are recorded. The temperature rise should, not exceed 55 deg C or 75 deg C for class A or B insulation respectively. Method of Construction: Executed quantity will be counted on number basis. (i.e. each)

10. GENERAL CONDITIONS:

A) Precautions for Contract:

i) The bidder is supposed to quote their minimum in % for the schedule items and lowest for non schedule items.

i) Every tenderer should have Electrical Contractor License.

ii) Contractor must be thoroughly conversant with the system, its parts and operation of system.

iii) Contractor has to inspect the system before quoting the offer, so that the lift is kept in working condition and has to maintain the system during entire period of warranty period of 1 year after

handing over these lifts, as per existing design in safe manner by adopting all precaution and observing safety rules in force.

iv) The Contractor shall have to attend faults, breakdowns and emergency calls for 24 hours a day on all days through his skilled staffs.

v) Skilled staffs has to be deputed whenever needed and in case of emergency period. The period will be intimated well in advance by the Engineer in charge.

vi) Period of warranty period shall be for one year from the date of handing over the lift to IGIMS.

vii) The Contractor shall have to maintain and declare service center within Corporation area, so as to reach at breakdown site immediately with phone service or other facility round the clock.

viii) Contractor shall have to submit the list of skilled staff mentioning their qualifications, ages, experience and character with phone numbers.

B) Scope of work:-

i) A Checklist showing preventive maintenance of machineries will be issued to the contractor at the time of agreement. The Contractor has to adhere to this skeleton.

ii) Complaint register will be maintained by Engineer in charge at site office and same has to be noted invariably by contractor or his authorized representative, to avoid complications and inconvenience occurred mainly because of communication gap.

iii) Standby arrangement for maintenance shall have to be done by the Contractor in case of any BANDH or STRIKE or MAJOR BREAKDOWN so as to get uninterrupted service.

iv) In respect of termination of contract, addition, alteration or modification in any of the conditions, rights are reserved with the IGIMS, without assigning any reason.

v) If any part of or complete system is modified or altered with change in design/concept, without prior approval the contract for that particular item/Full, will be terminated.

vi) In case of fatal or non-fatal accident occurred to the workers, during the SITC or maintenance of these lifts, IGIMS will not be liable to pay for any compensation and it is duty of Contractor to observe all workers act and rules.

viii) Successful tender has to carryout fully comprehensive maintenance for one year after completion and commissioning of lift which will also include all defect liabilities free of cost.

B) Working Procedure:-

i) All complain calls (after receipt either I writing or conveyed orally on telephone) shall have to be attended by Contractor's workers within reasonable time and with fastest possible speed, but in any case, it shall not be extended beyond 24 hours.

ii) The Contractor shall have to provide uniform and batches/identity cards to his workers showing the names and designation of persons. Required persons shall have to be kept at the service center or at the concern site, for attending breakdown calls at any time.

iii) Log Book has to be maintained by the Contractor at site in consultation with the site In charge.

iv) Challan/Inspection Note with completion report shall have to be maintained in duplicate the Contractor mentioning all work details and to be signed by Contractor's representative and site in charge by handing over one copy to site in charge.

v) Periodical visits within fortnight/monthly/Bimonthly shall have to be made with respect to work order schedule for regular servicing, inspection and repair if any required.

vi) In case of breakdown in system reasonably hire charges will be given for comprehensive contract in force, till rectification of fault on war footing basis.

vii) The Contractor shall preferably obtain the signature of Engineer in charge after attending breakdown calls and inspection/servicing and all works should be carried out with knowledge to Engineer in charge..

viii) Fully comprehensive maintenance in warranty of 1 year covers work of replacement of unserviceable defective operational parts, moving parts, switchgears related in the system, control cables, and switchgears etc.

The Contractor has to maintain cleanliness towards respective system, sufficient safety, ethics and politeness in behavior by him and his staff.

ix) Sundry works, if any crops up, during maintenance of system, such as fabrication, machinery, plumbing, welding, insulation etc. shall have to be carried out immediately with no extra cost.

x) Dismantled materials to be retained by the Contractor in the warranty period.

C) Supply of Material:-

i) The Tools and plants including ladders and special equipment required for maintenance/measurements shall have to be supplied to his workers by the Contractor.

ii) All types of consumable items , grease, wire, , insulation tape, screws, nuts and bolts etc. required for preventive maintenance shall have to be supplied to his workers by the Contractor.

iii) All the material to be used shall have ISI marked, preferably as per existing make and type and the material for which ISI specification is not available/required, such material and other shall got approved from Engineer in charge. The Contractor shall have to ensure that stock of all material required, is to be maintained by him at all time. Proper arrangement for storing material is to be made by contractor at his cost.

iv) The major item or equipments required in case of failure/breakdown, should be made available immediately in 24 hours or standby arrangement should be done at Contractor's own cost in case of fully comprehensive maintenance contract.

D) Penalty Clause:-

i) The un-attendance of calls after period of 24 hours shall be treated as unsatisfactory progress of work and minimum penalty of Rs.100/- per day per lift will be imposed and deducted through S/D. Similarly after sufficient and reasonable time if complaint/defect is not attended/ rectified, necessary work will be carried out through other agency at the risk and cost of Contractor and necessary recoveries will be affected as per rules and regulation.

ii) On and above lump sum amount will be penalized separately against inconvenience cause to user department, for which rights of deciding amount will be reserved at the discretion of Engineer in charge subsequently, warranty period will be treated extended accordingly with respect to delay in period and with no extra cost.

iii) Contractor will be liable for damage done inside the working place or outside working area and also for imperfections.

E) Fully comprehensive maintenance under warranty covers:-

i) Works of repair or replacement of unserviceable operational parts or moving parts such as motors, gearboxes, pulleys, contacts, relays, switchgear, ropes, drives, panels etc.

ii) Periodical replacement of consumable items such as bulb, fuses, control cables, lugs, locks with keys etc. and also lubricants, service material.

iii) Replacement of switchgear oils, gear box oil periodically with test results.

iv) Cleaning of all necessary parts periodically with help of required material with respect to method of construction/servicing to be decided with Engineer-in-charge checking of system and alignment and overhauling.

v) Complete installation, and lift room etc. shall be maintained neat and in clean manner every day.

To check, inspect and maintained the following points in respect of LIFT MAINTENANCE

- *a. Landing and Car doors (Automatic).*
- *b. Gate locks Car Gate Switch, Emergency Alarm and Emergency Stop.*
- *c. Guide shoes and Liner and Guide for Car and Counter weights.*
- *d. Counter weight frame, car framed, buffers, landing bottom.*
- *e. Gang switch, ropes, pulley, break, break liners, motor.*
- *f. Gear and Worm, Limits, over speed Governor.*
- *g. Phase failure switch, overload relay, pit, machine room.*
- *h. Wiring, trailing cable relays and contacts.*
- *i. Electronic circuits, PCB complete panel.*
- *j. Complete wiring for intercom, PA system etc.*
- *k. The lift shall be got approved through Inspector of Lift (Govt. of Bihar) once in a year. A necessary fee has to be paid by the Contractor.*

F) SERVICE DURING WARANTY PERIOD

Service and maintenance for 12 months should be done from the date of the statutory Government license of each elevator. The scope of maintenance and satisfactory commissioning service during warranty period shall be as follows:

- ***a. Checking and servicing the elevators once in a month or as and when requested.***
- ***b. Attending the break down when called upon by the client during normal working hours.***
- ***c. Repairing the elevators or part thereof free of charge.***
- ***d. Supplying free of charge all spares and materials, which are needed for the unit as a result of wear and tear during warranty period.***
- ***e. Attending the urgent breakdown calls during normal working hours. The warranty period shall be one year from the date of satisfactory completion.***
- ***f. The complete panel and equipment should be maintained fully comprehensive basis and if any fault is noticed, should be rectified within 48 hours with no extra cost. Works of repair or replacement of unserviceable operational parts or moving parts, such as motors, gear boxes, pulleys, contact relays, ropes etc.***
- ***g. Replacement of consumable items such as bulb, fuses, locks and also lubricant, service material. h) Replacement of gear box oil periodically.***
- ***h. Cleaning of all necessary parts periodically with help of required material with respect to method of construction/servicing to be decided with Engineer-in-charge checking of system and alignment and overhauling.***
- ***i. Complete installation, machine room etc. shall be maintained neat and in clear manner every day.***
- ***j. A log book shall be maintained in the section office/ machine room in which all servicing, breakdown attendance, reason of fault etc shall be recorded.***
- ***k. The cleaning of machine room, lift shaft, lift pit is the duty of lift contractor.***
- ***l. Lift will not be treated as completed unless and until statutory Govt. licence from concerned authority is obtained and handed over to department.***

G) PERFORMANCE GUARANTEE:-

Successful tenderer will have to furnish performance guarantee on the stamp paper of Rs.1000/- for 5% of tendered amount in prescribed Performa enclosed. The cost of the stamp paper shall be borne by the tenderer.

H) Standard Control Features

1) Full load Control:- Once the lift is loaded to 80% of rated capacity, all landing calls will be by passed while all car calls will be attended and the same should be indicated at all landing.

2) Over load Control:- If the car is overloaded, new starting will be prevented, and doors will remain open with a audio visual indication in car signaling overload condition.

3) Fireman's Control:- The facility is to be exclusively used by fire fighting personal for rescoring trapped person in the building.

4) Automatic Return: - The car returns to a designated floor after attending all calls. This is preferential treatment to a designated floor.

5) Phase failure and Reversal Protection:- This protects the controller and motor from burn out. The lift will be stopped if phase failure is detected.

6) Main Parking floor:- An available car will be parked at the main floor with doors open/closed.

7) Mechanical Door Safety:- If doors are obstructed while closing they will retract on applying gentle pressure. This act should be as backup to infrared safety.

8) Programmability: - The controller is programmable with the help of a dedicated console, Several parameters (e.g. Single Control, Group Control, Anti Nuisance etc.) can be quickly reprogrammed with microprocessor controller with simplest collective and selective control.

9) Short Circuit Protection: - A safety circuit on motherboard prevents damage to the main processor. Simplified cabling by using intelligent I/O devices.

10) Self Diagnostic: - Problems are diagnosed automatically by the controller. Faults are recorded by the controller for analysis.

11) Anti Nuisance: - This feature helps to avoid unnecessary movement of the lift caused by mischievously/ erroneously registered car calls.

12) Advanced Door Opening: - This allows the doors to begin before the car stops at the destination floor and improves Round trip Time.

13) Press and Speak Intercom: - The car operating panel is provided with intercom and communication is possible between passengers and reception or security and also compatible for existing FPABX system.

14) Light Curtain:-

A highly sensitive full length infra-red door safety screen should be provided on the car doors.

15) Emergency Power Control:-

In the even of Power failure Cars are evacuated sequentially to the next lowest floor or to a predefined floor by means of an emergency power supply.

I) CONTRACT DRWINGS:-

The dimension of the lift well, pit, machine room etc provided here in tender is for tendering purpose and should be used as a reference only. Contractor is supposed to measure actual dimension and visualize the nature of type of work contemplated and to ensure that the rates and prices quoted by him in the bill of quantities take due consideration of the complexities of work involved during actual execution/construction as experienced Contractors in the field.

A Detailed Bar Chart should be submitted by the contractor before actual commencement of the work The tendered rates/prices for the work shall be deemed to include the cost of preparation, supply and delivery of all necessary drawings, prints, tracings and negatives which the Contractor is required to provide in accordance with the contract.

J) DOCUMENTATION:-

The Contractor shall prepare as built drawings of the work and will supply original and three copies to the Engineer who will verify and certify these drawings. Final as constructed drawings shall then be prepared by the Contractor and supplied in triplicate along with a micro film or Soft copy in CD/DVD of the same to the Engineer for record and reference purposes at the Contractor's cost.

C) Special terms and condition for the work sr no 3 in the tender : Supplying, fixing and commissioning of Power distribution panel in Diagnostic block at IGIMS

Scope of work:

1. The contractor has to supply install, test and commission the panel as per BOQ on the site.
2. Contractor has to transport, load, unload the panel up to exact site at IGIMS as per requirement as per direction of Engineer in charge.
3. Contractor has to disassemble, remove the old Panels and its connected cables wires e.t.c. from the site and make space for installing and commissioning these new panels.
4. Contractor has to connect the old supply cables and wires to new panels after re- lugging, re-glanding, extending the cables through straight through joints and rerouting the existing cables and wires as per requirement.
5. Contractor has to arrange the work in such time and day that the normal work of the hospital and Institute may not suffer.
6. Contractor has to keep in touch with the Engineer in charge for the details of the work.

Sd/-

DIRECTOR

IGIMS Patna-14

PROFORMA- I

PARTICULARS OF SIMILAR WORK EXECUTED IN LAST THREE YEARS (as per terms and condition clause 19)

Sr. No.	Name of work	Short description	Name and address of owner	Total value of work ₹	Completed on
1					
2					
3					
4					

Note: Self certified copies of all the above experiences are required to be uploaded at *www.eproc.bihar.gov.in* and hard copies are to be submitted at the Director office IGIMS Patna-14

Signature and seal of Contractor

PERFORMA -II

CERTIFICATE FOR NO DEVIATION

I,_____ Of

M/s_____

hereby certify that I have familiarised myself from the nature and volume of work involved and there is no deviation from the Tender conditions either technical or commercial and I am agreeing to all the terms and condition mentioned in the Tender Specification.

SIGNATURE and SEAL OF THE TENDERER