

Name of work

Complete Design and construction for providing access to G+2 Building with passenger lift and a G+3 Building with freight lift as per specifications at IIT Kanpur (SH: Civil and MEP Works including SITC of Lifts)

BID DOCUMENT



OFFICE OF INFRASTRUCTURE AND PLANNING
INDIAN INSTITUTE OF TECHNOLOGY KANPUR
August, 2023

Indian Institute of Technology Kanpur

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It is certified that this document contains 90 pages starting with Page No. i
Officer-in-Charge, Office of Infrastructure and Planning

1 Notice Inviting e-Tenders

The Dean of Infrastructure and Planning on behalf of Board of Governors of Indian Institute of Technology Kanpur invites online percentage rate tenders from eligible firms / specialized agencies satisfying the eligibility criteria mentioned in the document.

NIT No: Composite/28/08/2023-1

1	Name of work	: Complete Design and construction for providing access to G+2 Building with passenger lift and a G+3 Building with freight lift as per specifications at IIT Kanpur (SH: Civil and MEP Works including SITC of Lifts)
1	Estimated Cost exclusive of GST	: Rs. 91,67,158/-
3	Earnest Money Deposit (Rs.)	: EMD Declaration to be submitted in lieu of EMD as per Form 6.1
4	Duration of contract	: Two (2) months
5	Last Time & date of submission of bids (Up to)	: As per CPP portal data (https://eprocure.gov.in/eprocure/app)
6	Opening of bids	: As per CPP portal data
7	Time allowed for submission of requisite documents by lowest bidder	: Within One week of opening of financial bids

The bid forms and other details may be downloaded from Central Public Procurement Portal (<http://eprocure.gov.in/eprocure/app>). Aspiring bidders who have not enrolled / registered in e-procurement should enroll / register themselves before participating through web site <http://eprocure.gov.in/eprocure/app>. The portal enrolment is free of cost. Bidders are advised to go through instructions provided at "Instructions for online bid submission."

Bidders can access quotation / tender documents on the website (for searching in the NIC site), kindly go to quotation search option and type 'IIT'. Thereafter, click on "GO" button to view all IIT quotations. Select the appropriate quotation / tender and fill them with all relevant information and submit the completed Quotation / Tender document online on the website <http://eprocure.gov.in/eprocure/app> as per the schedule given in the next page.

Note: No manual bids will be accepted. All bids (both Technical & Financial) should be submitted in the e-procurement portal.

Applicants are advised to keep visiting the above-mentioned websites from time to time (till the deadline for bid submission) for any updates in respect of the tender documents, if any. Failure to do so shall not absolve the applicant of his liabilities to submit the applications complete in all respect including updates thereof, if any. An incomplete application may be liable for rejection.

Officer-in-Charge, Office of Infrastructure and Planning

2 Information and Instructions for Bidders for E-Tendering

The Dean of Infrastructure and Planning on behalf of Board of Governors of Indian Institute of Technology Kanpur invites online percentage rate tenders from eligible firms / specialized agencies satisfying the eligibility criteria mentioned in the document.

2.1 Schedule

1	Name of organization	:	Indian Institute of Technology Kanpur
2	NIT No:	:	Composite/28/08/2023-1
	Location	:	Indian Institute of Technology Kanpur
2	Tender / Quotation type (open / limited / EOI / auction / single)	:	Open
3	Tender / Quotation category (services / goods / works)	:	Works
4	Type of Contract (work / supply / auction / service / buy / empanelment / sell)	:	Work
5	Form of contract (IITK-7/8)	:	IITK-7
6	Work Category (civil / electrical / fleet management / computer systems)	:	Composite (Civil & MEP)
7	Is multi-currency allowed?	:	No
8	Date of publishing / issue / start	:	As per CPP portal
9	Document download start date	:	As per CPP portal
10	Document download end date	:	As per CPP portal
11	Date & time of pre-bid meeting	:	As per CPP portal
12	Venue of pre-bid meeting	:	As per CPP portal
13	Last date & time of uploading of bids	:	As per CPP portal
14	Date & time of opening of Technical bids	:	As per CPP portal
15	Bid Validity Days	:	90 days after opening of technical bid
16	Earnest Money Deposit (EMD)	:	EMD Declaration to be submitted in lieu of EMD as per FORM given in section 6.1

17	Non- Refundable Processing Fee (Inclusive of GST @18%) as given in section 6.2	Rs. 40,000/-for Non MSME/NSIC/Startup and Rs. 10,000/-for MSME/NSIC/Startup to The Register, Indian Institute of Technology Kanpur. The proof of submission must be uploaded along with transaction slip with due mention of NIT No. in the CPP portal for valid tender submission as per format given in section 6.2
18	No. of Bids / Covers (1 / 2 / 3 / 4)	: 2
19	Address for communication	: Office of Infrastructure and Planning, Indian Institute of Technology Kanpur, Kanpur, U.P. Pin - 208016
21	e-mail address	: tender_doip@iitk.ac.in

The intending bidder must read the terms and conditions of CPWD-6 carefully. He should only submit his bid if he considers himself eligible and he is in possession of all the documents required.

1. Information and instructions for bidders posted on website shall form part of bid document.
2. The bid document consisting of drawings, specifications, schedule of quantities of items to be executed, schedule of stages for payment as applicable and the set of terms & conditions of the contract to be complied with and other necessary documents can be seen and downloaded free of cost from www.eprocure.gov.in
3. But the bid can only be submitted after deposition of e processing fee and with the EMD declaration.
4. Those contractors not registered on the website mentioned above, are required to get registered beforehand. Only e-bids shall be accepted in CPPP portal through e-tendering processes.
5. The intending bidder must have valid Class-III digital signature to submit the bid.
6. On opening date, the contractor can login and see the bid opening process. After opening of bids, he will receive the competitor bid sheets.
7. Contractor can upload documents in the form of JPG format and PDF format.
8. Contractor must ensure to quote rate of each item. The column meant for quoting rate in figures appears in pink colour and the moment rate is entered, it turns sky blue.

In addition to this, while selecting any of the cells a warning appears that if any cell is left blank the same shall be treated as "0". Therefore, if any cell is left blank and no rate is quoted by the bidder, rate of such item shall be treated as "0" (ZERO).

However, if a tenderer quotes nil rates against each item in item rate tender or does not quote any percentage above/below on the total amount of the tender or any section / sub head in percentage rate tender, the tender shall be treated as invalid and will not be considered as lowest tenderer.

9. The “Eligibility/technical Bid” shall be opened first on due date and time as per the evaluation scheme. The “Financial Bid” of bidders qualifying the technical bid shall be opened on a later date as to be announced in CPP portal.
10. The bidders are advised to visit the site before submission of bids to have more clarity about the site conditions and availability of space for execution of the work.
11. All modifications/addendums/corrigendums issued regarding this bidding process shall be uploaded on website only.
12. The department reserves the right to reject any or all bids without assigning any reason thereof and may restrict the list of qualified bidders to any number deemed suitable by it, if too many bids are received satisfying the minimum laid down criteria.
13. Integrity pact of the tender document shall be signed between Dean of Infrastructure and Planning and the successful bidder after acceptance of the tender
14. The rates for all items of work, shall unless clearly specified otherwise, include cost of all operations and all inputs of labour, material, T&P, scaffolding, wastages, watch and ward, other inputs, all incidental charges, all other taxes (exclusive of GST), cess, duties, levies etc. required for execution of the work.
15. All the excavation and digging of the trenches shall be done manually as numbers of service line are passing inside the campus except in certain cases as approved by IITK. No Hydraulic Excavator shall be allowed for earth digging work except in certain cases as approved by IITK.
16. The specialized works shall be in compliance with 3 Star GRIHA rating and as per environmental policies of Institute. Nothing extra shall be payable on this account.
17. The tenderer has to associate with himself, agencies of specialized nature of items mentioned in the special conditions of contract. Such works shall be executed only through associated agencies specialized in these fields. The tenderer shall indicate the name(s) of his/her associated specialized agencies during submission of tender and submit mandatory documents as listed in 2.4 and the name of the specialized agency will be mentioned in the LOA.
18. The enlistment of the contractors should be valid on the last date of submission of bids. In case the last date of submission of bid is extended, the enlistment of contractor should be valid on the original date of submission of bids.
19. The description of the work is as follows: “Complete Design and construction for providing access to G+2 Building with passenger lift and a G+3 Building with freight lift as per specifications at IIT Kanpur (SH: Civil and MEP Works including SITC of Lifts)”
20. The work is estimated to cost **Rs.91,67,158/-**. However, this estimate given is mere approximation for guide.
21. Agreement shall be drawn with the successful bidders on prescribed Form No. CPWD 7 which is available as a Govt. of India Publication and also available on website

www.cpwd.gov.in. Bidders shall quote his rates as per various terms and conditions of the said form which will form part of the agreement.

22. The time allowed for carrying out the entire work will be Two (2) months from the date of start as defined in Schedule "F" or from the first date of handing over of the site, whichever is later, in accordance with the phasing as detailed in special conditions of contract in the bid document.
23. The site for the work will be handed over as per the special terms and conditions of the document.
24. An approved programme of completion submitted by the contractor after award of work based on the milestones given in the tender.
25. The bid document consisting of NIT, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents can be seen and downloaded from website www.eprocure.gov.in free of cost.
26. After submission of the bid the contractor can re-submit revised bid any number of times but before last time and date of submission of bid as notified.
27. While submitting the revised bid, contractor can revise the rate of one or more item(s) any number of times (he need not re-enter rate of all the items) but before last time and date of submission of bid as notified.
28. Earnest Money Declaration shall be uploaded to the e-Tendering website within period of submission
29. The receipt of e-processing fee shall also be uploaded to the e-tendering website by the intending bidder up to the specified bid. The Details of Institute Account for submitting e-processing fees is given in 6.2 under Section Various Forms and Formats.
30. Copy of documents as specified in the bid shall be scanned and uploaded to the e-tendering website within the period of bid submission.
31. The bid submitted shall be opened at as per the details provided in the CPP portal at DOIP office. The date of opening of Financial Bid shall be informed through web site after the opening of financial bid
32. The bid submitted shall become invalid and e- processing fee shall not be refunded if:
 - (i) The bidder is found ineligible.
 - (ii) The bidder does not upload scanned copies of all the documents stipulated in the bid document.
 - (iii) If a tenderer quotes nil rates against each item in item rate tender or does not quote any percentage above/below on the total amount of the tender or any section / sub head in percentage rate tender, the tender shall be treated as invalid and will not be considered as lowest tenderer.
33. The contractor whose bid is accepted will be required to furnish performance guarantee of 5% of tendered value within the period specified in Schedule F. This guarantee shall be in the form of or Deposit at Call receipt of any scheduled bank/ Banker's cheque of any scheduled bank/ Demand Draft of any scheduled bank/ Pay order of any Scheduled

Bank of any scheduled bank (in case guarantee amount is less than Rs. 1,00,000/-) or Government Securities or Fixed Deposit Receipts or Guarantee Bonds of any Scheduled Bank or the State Bank of India in accordance with the prescribed form.

34. In case the contractor fails to deposit the said performance guarantee within the period as indicated in Schedule 'F' including the extended period if any, the contractor shall be suspended for two years and shall not be eligible to bid for IITK tenders from the date of issue of suspension order.
35. The contractor whose bid is accepted will also be required to furnish either copy of applicable licenses/ registrations or proof of applying for obtaining licenses, registration with EPFO, ESIC and BOCW Welfare Board including Provident Fund Code No. If applicable and also ensure the compliance of afore said provisions by the sub-contractors, if any engaged by the contractor for the said work and program chart (Time and Progress) within the period specified in Schedule 'F'.
36. Intending Bidders are advised to inspect and examine the sites and its surroundings and satisfy themselves before submitting their bids as to the nature of the ground and sub-soil (so far as is practicable), the form and nature of the site, the means of access to the site, making proper arrangements to the site for smooth operation, 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 bid. Bidder shall be deemed to have full knowledge of the sites whether he inspects it or not and no extra charge consequent on any misunderstanding or otherwise shall be allowed. The bidder shall be responsible for arranging and maintaining at his own cost all materials, tools & plants, water, electricity access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a bid by a bidder implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and of conditions and rates at which stores, tools and plant, etc. will be issued to him by the Institute and local conditions and other factors having a bearing on the execution of the work.
37. Intending Bidders are advised to get familiarized with the specifications /rules related (i.e., Complete Design and construction for providing access to G+2 Building with passenger lift and a G+3 Building with freight lift as per specifications at IIT Kanpur (SH: Civil and MEP Works including SITC of Lifts)) to the work as approved by the competent authority and various policies related to c&d waste and other environmental guidelines of the institute pertaining to the. Bidder shall be deemed to have full knowledge of such rules and regulations whether he has read it or not and no extra charge consequent on any misunderstanding or otherwise shall be allowed. In case of reduction of scope of work or no work is possible to carry out on account of such issues, no cost shall be payable to them. Submission of a bid by the bidder implies that he has read this notice and all other documents and has made himself aware of the Institute Regulations and other factors having a bearing on the execution of the work.
38. The competent authority on behalf of the Board of Governors does not bind itself to accept the lowest or any other bid and reserves to itself the authority to reject any or all the bids received without assigning any reason. Bids in which any of the prescribed conditions is not fulfilled or any condition including that of conditional rebate is put forth by the bidders shall be summarily rejected.

39. Canvassing whether directly or indirectly, in connection with bids is strictly prohibited and the bids submitted by the bidders who resort to canvassing will be liable to rejection.
40. The competent authority on behalf of the Board of Governors reserves to himself the right of accepting the whole or any part of the bid and the bidders shall be bound to perform the same at the rate quoted.
41. The contractor shall not be permitted to bid for works in the Office of Infrastructure and Planning / Institute Works Department responsible for award and execution of contracts, in which his near relative is posted as Divisional Accountant or as an officer in any capacity between the grades of Superintending Engineer and Junior Engineer (both inclusive) in IWD and Office of Infrastructure and Planning. He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any gazetted officer in the Office of Infrastructure and Planning/ Institute Works Department. Any breach of this condition by the contractor would render him liable to be removed from the approved list of contractors of this Department.
42. No Engineer of Gazetted Rank or other Gazetted Officer employed in Engineering or Administrative duties in an Engineering Department of the Government of India is allowed to work as a contractor for a period of one year after his retirement from Government service, without the prior permission of the Government of India in writing. This contract is liable to be canceled if either the contractor or any of his employees is found any time to be such a person who had not obtained the permission of the Government of India as aforesaid before submission of the bid or engagement in the contractor's service.
43. The bids for the work shall remain open for acceptance for a period of Ninety (90) days from the date of opening of bids. If any bidder withdraws his bid before the said period or issue of letter of acceptance, whichever is earlier, or makes any modifications in the terms and conditions of the bid which are not acceptable to the department, then the Institute shall, without prejudice to any other right or remedy, be at liberty to suspend the bidder for one year.
44. This notice inviting Bid shall form a part of the contract document. The successful bidders/contractor, on acceptance of his bid by the Accepting Authority shall within 7 days from the stipulated date of start of the work, will sign the contract.
45. The Notice Inviting Bid, all the documents including additional conditions, specifications and drawings, if any, forming part of the bid as uploaded at the time of invitation of bid and the rates quoted online at the time of submission of bid and acceptance thereof together with any correspondence leading thereto
46. Standard C.P.W.D. Form 7 or other Standard C.P.W.D. Form as applicable.

For Composite Bids

47. The cost of bid document has been fixed with respect to the combined estimated cost put to tender for the composite bid.
48. The bid document will include the following components:
 - (a) CPWD-7 and CPWD-6 including Schedule A to F for all the components of the work, Standard General Conditions of Contract for CPWD 2020 as amended/modified up to last date of submission of the bid.

- (b) General / specific conditions, specifications applicable to all the components of the work.
49. The eligible bidders shall quote percentage rates after considering all the aspects and components of the work.
 50. After acceptance of the bid by competent authority, the Dean, Infrastructure and Planning shall issue letter of award on behalf of the Board of Governors to the contractor. After the work is awarded, the contractor will have to enter into one agreement with Dean, Infrastructure and Planning. One such signed set of agreement shall be handed over to Engineer-In-Charge as applicable.
 51. Entire work under the scope of composite bid shall be executed under one agreement.
 52. Security Deposit will be worked out separately for each component corresponding to the estimated cost of the respective component of works.
 53. The requirement of technical staff given in various specialized works is as per requirements given in clause 32 of NIT document. The actual deployment of these technical staff will be as per execution of work and direction of the Dean of Infrastructure and Planning, IITK.
 54. Running bill must be generated based on the items of work decided for execution as directed by Engineer In Charge as per the tender clauses. The work of each component must be satisfactorily executed before a running bill is cleared by the Engineer In Charge.
 55. Running bill and final bill for components shall be facilitated by Engineer-in-Charge to the contractor.
 56. The composite work shall be treated as complete when all the components of the work are complete. The completion certificate of the composite work shall be recorded by Engineer-in-Charge and the completion certificate will be issued to the contractor by Dean,Infrastructure and Planning.
 57. It will be obligatory on the part of bidder to sign the contract document for all components before the first payment is released.
 58. In case of reduction in scope of work no claim on account of reduction in value of work, loss of expected profit, consequential overheads etc. shall be entertained.
 59. Integrity Pact: The contractor shall download the Integrity Pact, which is a part of tender documents, affix his signature in the presence of a witness, and upload the same while submitting online bids. In the event of his failure to sign and upload the Integrity Pact along with other bid documents, his bid shall be rejected
 60. A team of officers from Indian Institute of Technology Kanpur may visit the office/ site of work of bidders for establishing their credibility and verification of submitted documents
 61. The mentioned work is urgent as requested by client/Institute and to be completed strictly in given time schedule as per special terms and conditions. The contractor has to deploy the labour and supervisory staff in shifts to meet the targeted completion date. The work may be executed in extended shifts or two shifts. The rates quoted by the contractor will be deemed to be inclusive of any extra expenditures on account of this reason. Nothing shall be paid on this account.

2.2 Payment and Schedule

Payment for SITC for Lift components shall be regulated as under:

1. 75% of the tendered value on receipt of materials at site.
2. 15% of the tendered value on installation and connection.
3. 10% of the tendered value on testing and commissioning.
4. The corresponding deducted security from the total completed cost item wise, shall be retained by IIT Kanpur till the completion of the comprehensive warranty of the major equipment's/completion of the defect liability period of 1 year or it may be released against the Bank Guarantee of same amount for the above said period.
5. The AMC payment shall be made after completion of the amc for the respective quarters. The agency should furnish the bills in respect of quarterly amc charges for providing services under the contract on 2nd week of the every next quarter.

2.3 Instructions for Online BID Submission

This tender document has been published on the Central Public Procurement Portal (URL: <http://eprocure.gov.in/eprocure/app>). The bidders are required to submit softcopies of their bids electronically on the CPP portal, using valid Digital Signature Certificates (DSC). The instructions given below are meant to assist the bidders in registering on the CPP portal, prepare their bids in accordance with the requirements and submitting their bids online on the CPP portal.

More information useful for submitting online bids on the CPP portal may be obtained at <http://eprocure.gov.in/eprocure/app>

2.3.1 Registration

1. Bidders are required to enroll on the e-procurement module of the Central Public Procurement portal (URL:<http://eprocure.gov.in/eprocure/app>) by clicking on the link, “click here to enroll”. Enrolment on the CPP portal is free of charge
2. As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for the accounts.
3. Bidders are advised to register their valid e-mail address and mobile number as part of the registration process. These would be used for any communication from the CPP portal.
4. Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (class 2 or class 3 certificates with signing key usage) issued by any certifying authority recognized by CCA India (e.g. Sify / TCS / nCode/ eMudhra etc.) with their profile.
5. Only one valid DSC should be registered by a bidder. Please note that bidders are responsible to ensure that they do not lend their DSCs to others which may lead to misuse.
6. Bidder then logs in to the site through the secured log-in by entering their user ID Password and the password of the DSC / eToken.

2.3.2 Searching for tender documents

1. There are various search options built in the CPP portal to facilitate bidders to search active tenders by several parameters. These parameters could include tender ID, organization name, location, date, value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as organization name, form of contract, location, date, other keywords etc. to search for a tender published on the CPP portal.
2. Once the bidders have selected the tenders they are interested in, they may download the required documents / tender schedules. The tenders can be moved to the respective “My Tenders” folder. This would enable the CPP portal to intimate the bidders through SMS / e-mail in case there is any corrigendum issued to the tender document.
3. The bidder should make a note of the unique Tender ID assigned to each other; in case they want to obtain any clarification/help from the Helpdesk.

2.3.3 Preparation of bids

1. Bidder should take into account any corrigendum published on the tender document before submitting their bids.
2. Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bids. Please note the number of covers in which the bid documents have to be submitted. Any deviations from these may lead to rejection of the bids.
3. Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF / XLS / RAR / DWF formats. Bid documents may be scanned with 100 dpi with black & white option.
4. To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g., PAN card copy, annual reports, auditor’s certificates, etc.) has been provided to the bidders. Bidders can use “My Space” area available to them to upload such documents. These documents may be directly submitted from the “My Space” area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission process.

2.3.4 Submission of bids

1. Bidder should log into the site well in advance for bid submission so that he / she upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.
2. The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.
3. Bidder has to select the payment option as “on-line” to pay the EMD as applicable and enter details of the instrument
4. A standard BOQ Format has been provided with the tender document to be filled by all the bidders. Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. Bidders are required to

download the BOQ file, open it and complete the white colored [unprotected] cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it online, without changing the filename. If the BOQ file is found to be modified by the bidder, the bid will be rejected.

OR

In some cases, financial bids can be submitted in PDF format as well (in lieu of BOQ).

5. The server time (which is displayed on the bidders' dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.
6. All the documents being submitted by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128-bit encryption technology. Data storage encryption of sensitive fields is done.
7. The uploaded tender documents become readable only after the tender opening by the authorized bid openers.
8. Upon the successful and timely submission of bids, the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.
9. Add scanned PDF of all relevant documents in a single PDF file of compliance sheet.

2.3.5 Assistance to bidders

1. Any queries relating to tender document and the terms and conditions contained therein should be addressed to the tender inviting authority for a tender or the relevant contact person indicated in the tender.
2. Any queries relating to the process of online bid submission or queries relating to CPP portal in general may be directed to the 24 x 7 CPP Portal Help Desk.

2.3.6 General instruction to bidders

1. The tenders will be received online through portal <https://eprocure.gov.in/eprocure/app>. In the technical bids, the bidders are required to upload all the documents in PDF format.
2. Possession of a valid class II / III Digital Signature Certificate (DSC) in the form of smart card / e-token in the company's name is a prerequisite for registration and participating in the bid submission activities through <https://eprocure.gov.in/eprocure/app>. Digital Signature Certificates can be obtained from the authorized certifying agencies, details of which are available in the website <https://eprocure.gov.in/eprocure/app> under the link "Information about DSC".

Tenderers are advised to follow the instructions provided in the "Instructions to the tenderer" for the e-submission of the bids online through the Central Public Procurement Portal for e-procurement at <https://eprocure.gov.in/eprocure/app>.

Dean, Infrastructure and Planning
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2.4 List of documents to be scanned and uploaded within the period of bid submission

The following mandatory documents to be submitted with online bid submission:

The Online bids (complete in all respect) must be uploaded online in two Envelops as explained here: -

2.4.1 Envelope - 1: Technical Bid

The following mandatory documents to be provided as **a single PDF** file in the same sequence as listed for evaluation:

1. EMD Declaration as per 6.1
2. Proof of submission of Processing Fees as per 6.2
3. GST Registration Certificate or GST Undertaking as per 6.3
4. EPF & ESI Registration
5. Copy of PAN card
6. Scanned copy of Lifts' Original Equipment Manufacturer's (OEM) Certificate.
7. Undertaking from the OEM's regarding comprehensive maintenance services as per 6.11
8. Turnover and Other Financial statement of the Agency as per 6.5
9. Affidavit for not being blacklisted/debarred/restrained As per 6.4
10. Solvency certificate as per 6.6
11. Performance report of works executed as per 6.7
12. Structure and Organization of the Agency as per 6.8
13. Declaration on Details of the Bidder(s) as per 6.9
14. Details of Similar Nature of Works Completed as per 6.10
15. Declaration about Site Inspection as per 6.12
16. Enlistment Order of the Contractor in appropriate class and category issued by CPWD or others.
17. Letter of Transmittal as per 6.13

2.4.2 Envelope - 2: Financial Bid

Price bid should be submitted in BOQ format

3 Eligibility Criteria

3.1 Eligibility criteria for contractors

Contractors who fulfill the following criteria shall be eligible to apply.

Eligible Bidders

Eligible bidders should satisfy the following criteria for an eligible bid:

1. **Average annual financial turn over:**

Average annual financial turnover of composite works /civil works should be at least 100% of the estimated cost of work put to tender during the last 3 consecutive financial years by the certified Chartered Accountant.

Audited turnover statements to be furnished as proof of the same duly certified by chartered accountant along with Profit & Loss Statements.

The bidder should not have incurred loss (profit after tax should be positive) in more than two years during last five financial years ending 31st March 2023, duly audited and certified by the Chartered Accountant.

Solvency Certificate- 40% of the estimated cost put to tender

2. **Experience (value of work done shall be within a span of one year):**

Firms/Contractors must have completed satisfactorily

i) One similar work of 80% value of the estimated cost put to tender

Or

ii) Two similar work of 60% value of the estimated cost put to tender

or

iii) Three similar work of 40% value of the estimated cost put to tender

Works completed during last 7 years ending on date 31.03.2023.

3. **Definition of similar work:** Similar type of work means “Building construction work with lift installation of minimum 13 passengers and two landing with all Civil, MEP works etc. including SITC of lifts” done with any Central Government Department / Central Autonomous Body / Central Public Sector Undertakings /State Government and Private Institute / Establishment of repute in last 7 years (Not earlier than 01-04-2016).

Eligible bidders must also satisfy the following conditions and ensure submission of all documents mentioned in 2.4

- (a) **Legal:** Unregistered Partnership Firm and Joint Venture or Consortium are not eligible.
- (b) **Registration:** Bidder should be registered with the Income Tax Department, Employees Provident Fund (EPF) Organization, Employees State Insurance (ESI) Corporation & GST. Bidders are not eligible in absence of these documents.
- (c) **Office:**

Bidders have to establish its local accessible office at IIT Kanpur to run the awarded work.

4 Bid Evaluation

The following process will be followed for the Technical and Financial Bids Evaluation:

4.1 Technical Bid Evaluation

- Technical bids received complete in all respects covering the entire scope of work, will only be opened
- The technical bid evaluation is done only for bidders who satisfy the minimum criteria by submitting documentary proof supporting eligibility criteria and the bids of agencies who have not submitted these documents are liable to be rejected without notice
- **Marking scheme:** Maximum marks = 100, Bidders obtaining more than or equal to 75 marks will be technically qualified

Marking Scheme

1.	Completion certificate for Similar works within the span of last seven years	:	Max Marks = 25
(a)	One similar work of 80% value / (a) Two similar works of 50% value/ Three similar works of 40% value of the estimated cost put to tender	:	10 Marks
(b)	Two similar works of 80% value / (a) Three similar works of 50% value/ Four similar works of 40% value of the estimated cost put to tender	:	20 Marks
(c)	Three similar works of 80% value / (a) Four or more similar works of 50% value/ Five or more similar works of 40% value of the estimated cost put to tender	:	25 Marks
2.	Average turn over in crore of the organization in last three financial years	:	Max Marks = 25
(a)	Turnover more than 100% – 200%	:	10 Marks
(b)	Turnover more than 200% – 300%	:	20 Marks
(c)	Turnover more than 300%	:	25 Marks
3.	Performance Report	:	Max Marks = 25
(a)	Outstanding	:	25 Marks
(b)	Very good	:	20 Marks
(c)	Good/Satisfactory	:	10 Marks
(d)	Poor	:	5 Marks

4. **Technical presentation - Presentation by Bidders shall be held on the day of opening the Technical Bid unless otherwise informed in CPP portal. The venue & and time shall be informed in CPP portal** : Max Marks = 25

(a) Implementation strategy of the contract proposed by the agency for executing the work on timely basis and addressing the deployment of resources, time and progress strategies and the expertise financially and technically to do the work, needs to be incorporated. : 25 Marks

(a)	Excellent	:	> 20 Marks
(b)	Good	:	16-20 Marks
(c)	Average	:	11-15 Marks
(d)	Fair	:	6-10 Marks
(e)	Poor	:	= 5 Marks

4.2 Financial Bid Evaluation

For financial bids, the following points shall be followed:

- Only the bidders securing minimum of 75 marks out of 100 marks in technical evaluation qualifies for subsequent opening of financial bid
- Weightage for total marks obtained by bidder in technical bid shall be 30% technical weightage and financial bid shall be 70% financial weightage. Thereby, total 100% weightage for the complete bid. For example: If a bidder secures 90 marks out of 100 marks in technical evaluation, his technical weightage will be 27 marks.
- Bidder with lowest financial bid: 100 Marks. Financial weightage is 70%. For example: The financial weightage of the bidder with lowest financial bid will be 70 Marks and the higher bids will be evaluated accordingly.

NOTE

The employer reserves the right, without being liable for any damages or obligation to inform the bidder, to:

- Amend the scope and value of contract to the bidder.
- Reject any or all the applications without assigning any reason.

Any effort on the part of the bidder or his agent to exercise influence or to pressurize the employer would result in rejection of his bid. Canvassing of any kind is prohibited.

5 Integrity Pacts

INTEGRITY PACT

(For Institute)

To

Subject: Composite/28/08/2023-1 for the work of “Complete Design and construction for providing access to G+2 Building with passenger lift and a G+3 Building with freight lift as per specifications at IIT Kanpur (SH: Civil and MEP Works including SITC of Lifts)”

Dear Sir/Madam,

It is here by declared that Office of Infrastructure and Planning, IITK is committed to follow the principle of transparency, equity and competitiveness in public procurement.

The subject Notice Inviting Tender (NIT) is an invitation to offer made on the condition that the Bidder will sign the integrity Agreement, which is an integral part of tender / bid documents, failing which the tenderer / bidder will stand disqualified from the tendering process and the bid of the bidder would be summarily rejected.

This declaration shall form part and parcel of the Integrity Agreement and signing of the same shall be deemed as acceptance and signing of the Integrity Agreement on behalf of the Office of Infrastructure and Planning

Sincerely

Dean of Infrastructure and Planning
(On Behalf of Board of Governors)

INTEGRITY PACT

(By Bidder)

To

The Dean Infrastructure and Planning

Subject: Submission of Tender for the work of “Complete Design and construction for providing access to G+2 Building with passenger lift and a G+3 Building with freight lift as per specifications at IIT Kanpur (SH: Civil and MEP Works including SITC of Lifts)”.

Dear Sir/Madam,

I / We acknowledge that _____ is committed to follow the principles thereof as enumerated in the Integrity Agreement enclosed with the tender/bid document.

I / We agree that the Notice Inviting Tender (NIT) is an invitation to offer made on the condition that I/We will sign the enclosed integrity Agreement, which is an integral part of tender documents, failing which I/We will stand disqualified from the tendering process. I/We acknowledge that **THE MAKING OF THE BID SHALL BE REGARDED AS AN UNCONDITIONAL AND ABSOLUTE ACCEPTANCE** of this condition of the NIT.

I/We confirm acceptance and compliance with the Integrity Agreement in letter and spirit and further agree that execution of the said Integrity Agreement shall be separate and distinct from the main contract, which will come into existence when tender/bid is finally accepted by Office of Infrastructure and Planning. I/We acknowledge and accept the duration of the Integrity Agreement, which shall be in the line with Article 1 of the enclosed Integrity Agreement.

I/We acknowledge that in the event of my/our failure to sign and accept the Integrity Agreement, while submitting the tender/bid, Office of Infrastructure and Planning shall have unqualified, absolute and unfettered right to disqualify the tenderer/bidder and reject the tender/bid in accordance with terms and conditions of the tender/bid.

Sincerely

(Duly authorized signatory of the Bidder)

INTEGRITY AGREEMENT

(To be signed by the bidder and same signatory competent / authorized to sign the relevant contract on behalf of Dean, Infrastructure and Planning)

This Integrity Agreement is made at on this day of20.....

BETWEEN

The Board of Governors represented through Dean, Infrastructure and Planning, IIT Kanpur (Hereinafter referred as the ‘Principal/Owner’, which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

AND

.....
.....

(Name and Address of the Individual/firm/Company)

through (Hereinafter referred to as the (Details of duly authorized signatory) “Bidder/Contractor” and which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

Preamble

WHEREAS the Principal/Owner has floated the Tender (NIT No: Composite/28/08/2023-1(hereinafter referred to as “Tender/Bid”) and intends to award, under laid down organizational procedure, contract for “Complete Design and construction for providing access to G+2 Building with passenger lift and a G+3 Building with freight lift as per specifications at IIT Kanpur (SH: Civil and MEP Works including SITC of Lifts)” here in after referred to as the “contract”.

AND WHEREAS the Principal / Owner values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness/transparency in its relation with its Bidder(s) and Contractor(s).

AND WHEREAS to meet the purpose aforesaid both the parties have agreed to enter into this Integrity Agreement (hereinafter referred to as “Integrity Pact” or “Pact”), the terms and conditions of which shall also be read as integral part and parcel of the Tender/Bid documents and Contract between the parties.

NOW, THEREFORE, in consideration of mutual covenants contained in this Pact, the parties hereby agree as follows and this Pact witnesses as under:

5.1 Article 1: Commitment of the Principal / Owner

- (a) The Principal/Owner commits itself to take all measures necessary to prevent corruption and to observe the following principles:
 - i. No employee of the Principal/Owner, personally or through any of his/her family members, will in connection with the Tender, or the execution of the Contract,

demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.

- ii. The Principal/Owner will, during the Tender process, treat all Bidder(s) with equity and reason. The Principal/Owner will, in particular, before and during the Tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential / additional information through which the Bidder(s) could obtain an advantage in relation to the Tender process or the Contract execution.
 - iii. The Principal / Owner shall endeavor to exclude from the Tender process any person, whose conduct in the past has been of biased nature.
- (b) If the Principal/Owner obtains information on the conduct of any of its employees which is a criminal offence under the Indian Penal code (IPC) / Prevention of Corruption Act, 1988 (PC Act) or is in violation of the principles herein mentioned or if there be a substantive suspicion in this regard, the Principal/Owner will inform the Chief Vigilance Officer and in addition can also initiate disciplinary actions as per its internal laid down policies and procedures.

5.2 Article 2: Commitment of the Bidder (s) / Contractor(s)

- (a) It is required that each Bidder / Contractor (including their respective officers, employees and agents) adhere to the highest ethical standards, and report to the Government / Department all suspected acts of **fraud or corruption or Coercion or Collusion** of which it has knowledge or becomes aware, during the tendering process and throughout the negotiation or award of a contract.
- (b) The Bidder(s) / Contractor(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the Tender process and during the Contract execution:
 - i. The Bidder(s) / Contractor(s) will not, directly or through any other person or firm, offer, promise or give to any of the Principal / Owner's employees involved in the Tender process or execution of the Contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the Tender process or during the execution of the Contract.
 - ii. The Bidder(s) / Contractor (s) will not enter with other Bidder (s) into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to cartelize in the bidding process.
 - iii. The Bidder(s) / Contractor(s) will not commit any offence under the relevant IPC/PC Act. Further the Bidder(s) / Contractor(s) will not use improperly, (for the purpose of competition or personal gain), or pass on to others, any information or documents provided by the Principal/Owner as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
 - iv. The Bidder(s)/ Contractor(s) of foreign origin shall disclose the names

and addresses of agents / representatives in India, if any. Similarly, Bidder(s)/Contractor(s) of Indian Nationality shall disclose names and addresses of foreign agents/representatives, if any. Either the Indian agent on behalf of the foreign principal or the foreign principal directly could bid in a tender but not both. Further, in cases where an agent participates in a tender on behalf of one manufacturer, he shall not be allowed to quote on behalf of another manufacturer along with the first manufacturer in a subsequent/parallel tender for the same item.

- v. The Bidder(s)/ Contractor(s) will, when presenting his bid, disclose (with each tender as per Performa enclosed) any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the Contract
- (c) The Bidder(s)/Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.
- (d) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm indulge in fraudulent practice **means a willful misrepresentation or omission of facts or submission of fake/forged documents in order to induce public official to act in reliance thereof, with the purpose of obtaining unjust advantage by or causing damage to justified interest of others and/or to influence the procurement process to the detriment of the Government interests.**
- (e) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm use Coercive Practices (means the act of obtaining something, compelling an action or influencing a decision through intimidation, threat or the use of force directly or indirectly, where potential or actual injury may befall upon a person, his / her reputation or property to influence their participation in the tendering process).

5.3 Article 3: Consequences of Breach

Without prejudice to any rights that may be available to the Principal/Owner under law or the Contract or its established policies and laid down procedures, the Principal / Owner shall have the following rights in case of breach of this Integrity Pact by the Bidder(s)/Contractor(s) and the Bidder / Contractor accepts and undertakes to respect and uphold the Principal / Owner's absolute right:

- (a) If the Bidder (s)/Contractor(s), either before award or during execution of Contract has committed a transgression through a violation of Article 2 above or in any other form, such as to put his reliability or credibility in question, the Principal/Owner after giving 14 days notice to the contractor shall have powers to disqualify the Bidder(s)/Contractor(s) from the Tender process or terminate/determine the Contract, if already executed or exclude the Bidder/Contractor from future contract award processes. The imposition and duration of the exclusion will be determined by the severity of transgression and determined by the Principal / Owner. **Such exclusion may be forever or for a limited period as decided by the Principal / Owner.**
- (b) **Forfeiture of Performance Guarantee / Security Deposit:** If the Principal/Owner has disqualified the Bidder(s) from the Tender process prior to the award of the Contract or terminated/determined the Contract or has accrued the right to

terminate/determine the Contract according to Article 3(1), the Principal/Owner apart from exercising any legal rights that may have accrued to the Principal/Owner, may in its considered opinion forfeit the entire amount of Earnest Money Deposit, Performance Guarantee and Security Deposit of the Bidder / Contractor.

- (c) **Criminal Liability:** If the Principal/Owner obtains knowledge of conduct of a Bidder or Contractor, or of an employee or a representative or an associate of a Bidder or Contractor which constitutes corruption within the meaning of Indian Penal code (IPC)/Prevention of Corruption Act, or if the Principal/Owner has substantive suspicion in this regard, the Principal/Owner will inform the same to law enforcing agencies for further investigation.

5.4 Article 4: Previous Transgression

- (a) The Bidder declares that no previous transgressions occurred in the last 5 years with any other Company in any country confirming to the anticorruption approach or with Central Government or State Government or any other Central/State Public Sector Enterprises in India that could justify his exclusion from the Tender process.
- (b) If the Bidder makes incorrect statement on this subject, he can be disqualified from the Tender process or action can be taken for banning of business dealings/ holding listing of the Bidder/Contractor as deemed fit by the Principal/ Owner.
- (c) If the Bidder/Contractor can prove that he has resorted / recouped the damage caused by him and has installed a suitable corruption prevention system, the Principal/Owner may, at its own discretion, revoke the exclusion prematurely.

5.5 Article 5: Equal Treatment of all Bidders/Contractors/Subcontractors

- (a) The Bidder(s) / Contractor(s) undertake(s) to demand from all subcontractors a commitment in conformity with this Integrity Pact. The Bidder / Contractor shall be responsible for any violation(s) of the principles laid down in this agreement/Pact by any of its Sub- contractors/sub-vendors.
- (b) The Principal / Owner will enter into Pacts on identical terms as this one with all Bidders and Contractors.
- (c) The Principal / Owner will disqualify Bidders, who do not submit, the duly signed Pact between the Principal/Owner and the bidder, along with the Tender or violate its provisions at any stage of the Tender process, from the Tender process.

5.6 Article 6:- Duration of the Pact

- (a) This Pact begins when both the parties have legally signed it. It expires for the Contractor / Vendor 12 months after the completion of work under the contract or till the continuation of defect liability period, whichever is more and for all other bidders, till the Contract has been awarded.
- (b) If any claim is made/lodged during the time, the same shall be binding and continue to be valid despite the lapse of this Pacts as specified above, unless it is discharged/determined by the Competent Authority.

5.7 Article 7: Other Provisions

- (a) This Pact is subject to Indian Law, place of performance and jurisdiction is the Headquarters of the Division of the Principal / Owner, who has floated the Tender.
- (b) Changes and supplements need to be made in writing. Side agreements have not been made.
- (c) If the Contractor is a partnership or a consortium, this Pact must be signed by all the partners or by one or more partner holding power of attorney signed by all partners and consortium members. In case of a Company, the Pact must be signed by a representative duly authorized by board resolution.
- (d) Should one or several provisions of this Pact turn out to be invalid; the remainder of this Pact remains valid. In this case, the parties will strive to come to an agreement to their original intentions.
- (e) It is agreed term and condition that any dispute or difference arising between the parties with regard to the terms of this Integrity Agreement / Pact, any action taken by the Owner/Principal in accordance with this **Integrity Agreement/ Pact or interpretation** there of shall not be subject to arbitration.

5.8 Article 8: LEGAL AND PRIOR RIGHTS

All rights and remedies of the parties hereto shall be in addition to all the other legal rights and remedies belonging to such parties under the Contract and/or law and the same shall be deemed to be cumulative and not alternative to such legal rights and remedies aforesaid. For the sake of brevity, both the Parties agree that this Integrity Pact will have precedence over the Tender / Contract documents with regard any of the provisions covered under this Integrity Pact.

IN WITNESS WHEREOF the parties have signed and executed this Integrity Pact at the place and date first above mentioned in the presence of following witnesses: .

.....
(For and on behalf of Principal/Owner)

.....
(For and on behalf of Bidder/Contractor)

WITNESSES:

1.
(Signature, name and address)

2.
(Signature, name and address)

Place:.....

Date: \ \ 20.....

6 Various Forms and Formats

6.1 Declaration in lieu of submitting Earnest Money Deposit

Proforma for Declaration in lieu of submitting Earnest Money Deposit
(Scanned copy of this Declaration to be uploaded at the time of submission of bid)

Whereas, I/we (name of agency) have submitted bids for Name of work: - “Complete Design and construction for providing access to G+2 Building with passenger lift and a G+3 Building with freight lift as per specifications at IIT Kanpur (SH: Civil and MEP Works including SITC of Lifts)”.

I/we hereby submit following declaration in lieu of submitting Earnest Money Deposit:

(a) If after the opening of tender, I/we withdraw or modify my/our bid during the period of validity of tender (including extended validity of tender) specified in the tender documents,

or

(b) If, after the award of work, I/we fail to sign the contract, or to submit performance guarantee before the deadline defined in the tender documents,

I/we shall be suspended for **two year** and shall not be eligible to bid for IITK tenders from date of issue of suspension order.

.....
Signature of the Bidder(s)

6.2 Format for submission of processing fees

Format for proof of submission to be uploaded along with transaction slip
(Scanned copy of this page to be uploaded at the time of submission of bid)

I/we have submitted the processing fess as per the following details:

NIT No	:	Composite/28/08/2023-1
Name of Agency	:	
GST number of Agency	:	
Date of transaction	:	
Total amount transferred	:	
UTR number	:	

.....
Signature of the Bidder(s)

Details of Institute Account for submitting processing fees are as follows:

Beneficiary Name: The Registrar, IIT Kanpur
Bank Name: SBI, IIT Kanpur
Account Number: 30632766814
IFSC Code: SBIN0001161

6.3 Undertaking regarding obtaining GST registration

**Proforma for Undertaking regarding obtaining GST registration Certificate of
The State in which work is to be taken up**

(Undertaking to be furnished on a 'Non-Judicial' stamp paper worth Rs.100/)
(Scanned copy of this notarized undertaking to be uploaded at the time of submission of
bid, if required)

If work is awarded to me, I/we shall obtain GST registration Certificate of the State, in
which work is to be taken up within one month from the date of receipt of award letter or
before release of any payment by IITK, whichever is earlier, failing which I/We shall be
responsible for any delay in payments which will be due towards me/us on a/c of the work
executed and/or for any action taken by IITK or GST department in this regard.

.....
(Signature of Bidder(s))

Or

.....
(An authorized Officer of the firm with stamp)

.....
(Signature of Notary with seal)

6.4 Affidavit for not being blacklisted/debarred/restrained

Proforma for AFFIDAVIT for not being blacklisted/debarred/restrained

(AFFIDAVIT to be submitted on a 'Non-Judicial' stamp paper worth Rs.100/)
(Scanned copy of this notarized affidavit to be uploaded at the time of submission of bid)

I/we undertake and confirm that our firm/partnership firm has not been blacklisted and/or debarred/restrained by ny Central Govt./ State Govt. Agency/ Autonomous body of the Central or State govt./ PSU etc. Further that, if such information comes to the notice of the Institute, then I/we shall be debarred for bidding in the Institute in future forever. Also, if such information comes to the notice of the Institute on any day before date of start of work, the competent authority shall be free to cancel the agreement and to forfeit the entire amount of Earnest Money Deposit/Performance Guarantee.

.....
(Signature of Bidder(s))

Or

.....
(An authorized Officer of the firm with stamp)

.....
(Signature of Notary with seal)

6.5 Financial Information

Proforma for providing Financial Information

(Scanned copy of the completed information sheet to be uploaded at the time of submission of bid)

Financial Analysis: Details to be furnished duly supported by figures in balance sheet/ profit & loss account for the last three financial years duly certified by the Chartered Accountant, as submitted by the applicant to the Income Tax Department (Copies to be attached).

Financial Years	2019	2020	2021	2022
Gross Annual turnover				
Profit/Loss				

.....
Signature of Chartered Accountant with Seal

.....
Signature of the bidders(s)

6.6 Banker's Certificate from a scheduled Bank

Proforma of Banker's Certificate from a Scheduled Bank

(To be printed in Bank's Letterhead)

(Scanned copy of the Certificate to be uploaded at the time of submission of bid)

This is to certify that to the best of our knowledge and information that M/s./Sh.....
having marginally noted address, a customer of our bank are/is respectable and can
be treated as good for any engagement up to a limit of Rs (Rupees
.....). This certificate is issued without any guarantee or responsibility on the
bank or any of the officers.

.....
(Signature for the Bank)

NOTE:

- (a) Bankers certificates should be on letter head of the Bank, addressed to tendering authority.
- (b) In case of partnership firm, certificate should include names of all partners as recorded with the Bank.

6.7 Performance report on work executed

Proforma of Performance report on works referred to in Financial Information

(To be printed in Company's Letterhead)

(Scanned copy of the Performance Reports to be uploaded at the time of submission of bid)

- (a) Name of work/project & location:
- (b) Agreement no.:
- (c) Estimated cost:
- (d) Tendered cost:
- (e) Date of start:
- (f) Date of completion:
- (g) Stipulated date of completion:
- (h) Actual date of completion:
- (i) Amount of compensation levied for delayed completion, if any:
- (j) Amount of reduced rate items, if any:
- (k) Performance Report:
 - i. Quality of work: Outstanding / Very Good / Good /Poor
 - ii. Technical Proficiency: Outstanding / Very Good / Good /Poor
 - iii. Resourcefulness: Outstanding / Very Good / Good /Poor
 - iv. General Behavior: Outstanding / Very Good / Good /Poor

Date:

Signature of Superintending Engineer or Equivalent

6.8 Structure and Organization of the Agency

Proforma of providing Structure and Organization of the Bidding Agency

(To be printed in Company's Letterhead)

(Scanned copy of the Structure and Organization Document to be uploaded at the time of submission of bid)

- (a) Name & address of the bidder:
- (b) Telephone no./Telex no./Fax no.:
- (c) Email address for Communication.:
- (d) Legal status of the bidder (attach copies of original document defining the legal status):
 - i. An Individual:
 - ii. A proprietary firm:
 - iii. A firm in partnership:
 - iv. A limited company or Corporation:

- (e) Particulars of registration with various Government Bodies (attach attested photocopy)

Organization / Place of registration Registration No.

- 1.
- 2.
- 3.
- (f) Names and titles of Directors & Officers with designation to be concerned with this work.
- (g) Designation of individuals authorized to act for the organization
- (h) Has the bidder, or any constituent partner in case of partnership firm, ever been convicted by the court of law? If so, give details.
- (i) Any other information considered necessary but not included above.

(Signature of of Bidder(s))

6.9 Declaration on Details of the Bidders

Proforma of Declaration on Details of the Bidders

(To be printed in Company's Letterhead)

(Scanned copy of the Performance Reports to be uploaded at the time of submission of bid)

DECLARATION

I/We,hereby declare that all the information and data furnished by our organization with regard to this tender specification are true and complete to the best of our knowledge. I/we have gone through the specification, conditions and stipulations in details and agree to comply with the requirements and intent of specification.

Particulars of the bidder as per following details:

1	Name of the firm / organization	:	
2	Type of the firm / organization: Public Ltd. / Private Ltd. / Registered firm	:	
3	Registered address	:	
4	Address of office	:	
5	Contact people	:	
6	Name & Designation	:	
7	Landline & Mobile numbers	:	
8	E-mail IDs	:	
9	PAN No.	:	
10	GST No.	:	
11	EPFO Reg. No.	:	
12	ESIC Reg. No.	:	
13	Annual Turnover for the last 3 years (Enclose copies of audited balance sheet and P&L A/c.)	:	
13.1	2021-2022	:	
13.2	2020-2021	:	
13.3	2019-2020	:	
14	EMD Declaration attached with signature	:	
15	Has the applicant ever been required to suspend any project for a period of more than six months continuously after Commencement of work?	:	If so, give the name of the project and reasons of suspension of project

16	Has the applicant ever been convicted by a court of law?	:	YES / NO,If yes, give details of the case
17	Details of any litigation in which the applicant is/was involved.	:	
18	All forms submitted as desired in the bid	:	Yes / No
20	Integrity Pact	:	
21	Undertaking regarding subletting of work	:	

We further declare that our organization has not been blacklisted /delisted or put to any holiday by any Institutional agency / Govt. Department / Public Sector Undertaking in the last three years.

Date:

Signature of Bidder(s) with seal

6.10 Details of Similar Nature of Works Completed

Proforma for submission of Details of Eligible Similar Nature of Works Completed* during the Last Seven Years ending previous day of the last date of submission of tenders (Scanned copy of the Performance Reports to be uploaded)

The bidding capacity of the contractor should be equal to, or more than the estimated cost of the work put to tender. The bidding capacity shall be worked out by the following formula: Bidding Capacity = $[A \times N \times 1.5] - B$, where

A = Maximum turnover in construction works executed in any one year during the last seven years taking into account the completed as well as works in progress. The value of completed works shall be brought to current costing level by enhancing at a simple rate of $7N$ = Number of years prescribed for completion of work for which bids has been invited.
 B = Value of existing commitments and ongoing works to be completed during the period of completion of work for which bids have been invited.

The contractor needs to submit the supporting documents for calculation of A & B as above. For calculation of B , information is to be supplied in the following tabular format:

Sr.No	Name of work/project and location	Owner or sponsoring organization	Cost of work in crores of rupees	Date of commencement as per contract	Stipulated date of completion	Actual date of completion	Litigation / arbitration cases pending / in progress with details*	Name and address/ telephone number of officers to whom reference maybe made	Whether the work was done on back to back basis Yes / No
1	2	3	4	5	6	7	8	9	10

* Indicate gross amount claimed and amount awarded by the Arbitrator.

Date:

Signature(s) of Bidder with seal

6.11 Undertaking from Lift OEM's (Original Equipment Manufacturer)

The bidder must have to submit along with tender submission, **an undertaking from OEM's regarding lift/elevator as mentioned below:**

Original Equipment Manufacturers (OEM's) undertaking for providing one (1) year (starting from the date after expiry of defect liability period) of Comprehensive Maintenance services of the lift(s) proposed to be supplied to IIT Kanpur under the above tender No. Composite/28/08/2023-1by M/s.

- (a) We , OEM for lift/elevator do hereby give undertaking to IIT Kanpur for the 1 year of Comprehensive Annual Maintenance support through M/s. , or self (OEM) eligible bidder for the work: Supply, installation, testing & commissioning of
 - i. 01 No. 02 Ton gearless & machine room less freight elevator and its AMC for 01 year at (G+3) in Animal House Building at IIT Kanpur.
 - ii. 01 Nos. 13 Passenger gearless & Machine room less Elevator and its AMC for 01 year at (G+2) New Student Activity Centre IIT Kanpur.
- (b) We also give undertaking to provide maintenance/service support and all the spares to IIT Kanpur throughout the useful life of the equipment(s) for the lift(s)

M/s.
(Authorized signatory of OEM with stamp.)

M/s.
(Signature(s) of Bidder with seal)

6.12 Declaration About Site Inspection

Declaration about Site Inspection

(By Bidder)

To

The Dean Infrastructure and Planning

Subject: Submission of Tender for the work of “Complete Design and construction for providing access to G+2 Building with passenger lift and a G+3 Building with freight lift as per specifications at IIT Kanpur (SH: Civil and MEP Works including SITC of Lifts)”.

Dear Sir/Madam,

It is hereby declared that as per terms and conditions of this tender document, I/ We the bidder inspected and examined the subject site and its surrounding and satisfy myself / ourselves as to the nature of the ground and sub-soil (so far as is practicable), the forms and nature of the site./ ourselves before submitting the bid, the accommodation which may require and all necessary information as to risks, contingencies and other circumstances which may influence or affect our bid have been obtained. I/We the bidder shall have full knowledge of the site and no extra charge consequent upon any misunderstanding or otherwise shall be claimed in later date. I /We bidder shall be responsible for arranging and maintaining at own cost all materials, tools & plants, water, electricity access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a bid by me/us implies that I / We have read this notice and all other contract documents and has made myself /ourselves aware of the scope and specifications of the work to be done and local conditions and other factors having a bearing on the execution of the work.

Sincerely

(Duly authorized signatory of the Bidder)

6.13 Letter of Transmittal

To

The Dean, Infrastructure and Planning
Indian Institute of Technology Kanpur
Kanpur, UP - 208016

Name of Work: Complete Design and construction for providing access to G+2 Building with passenger lift and a G+3 Building with freight lift as per specifications at IIT Kanpur (SH: Civil and MEP Works including SITC of Lifts)

Dear Sir/Madam

Having examined details given in Notice and bid document for the above work, I/we hereby submit the relevant information.

- (a) I/We hereby certify that all the statements made and information supplied in the enclosed forms and accompanying statement are true and correct.
- (b) I/we have furnished all information and details necessary for eligibility and have no further pertinent information to supply.
- (c) I/We also authorize the Dean, Infrastructure and Planning, Indian Institute of Technology Kanpur or his representative(s) to approach individuals, employers, firms and corporation to verify our competence, work experience, and general reputation.
- (d) I/we submit the following certificates in support of our suitability, technical knowledge and capability for having successfully completed the following eligible completed works:

Sl. No.	Name of work	Amount	Certificate issued by
1.			
2.			
3.			
4.			

CERTIFICATE

It is certified that the information given in the enclosed eligibility bid are correct. It is also certified that I/We shall be liable to be debarred, disqualified/ cancelation of enlistment in case any information furnished by me/us found to be incorrect.

Enclosures:

Date of submission:

Signature(s) of Bidder with seal

6.14 CPWD-7

CPWD-7

PERCENTAGE RATE TENDER & CONTRACT FOR WORKS

Tender for the “Complete Design and construction for providing access to G+2 Building with passenger lift and a G+3 Building with freight lift as per specifications at IIT Kanpur (SH: Civil and MEP Works including SITC of Lifts)”

- (a) To be uploaded as per details uploaded in CPP portal at www.eprocure.gov
- (b) To be opened in the presence of tenderers who may be present at the time of opening in the Dean, Infrastructure and Planning, IIT Kanpur.
- (c) The pre-qualification/Technical bid shall be opened first on due date and time as mentioned above. The time and date of opening of financial bid of contractors qualifying the technical bid shall be communicated to them at a later date.

TENDER

((To be signed in Company’s Letterhead))

I/We have read and examined the notice inviting tender, schedule, A, B, C, D, E & F Specifications applicable, Drawings & Designs, General Rules and Directions, General Conditions of Contract (For construction works) 2020, clauses of contract, Special conditions, Schedule of Rate & other documents and Rules referred to in the conditions of contract and all other contents in the tender document for the work.

I/We hereby tender for the execution of the work specified for the Board of Governors within the time specified in Schedule ‘F’ viz., schedule of quantities and in accordance in all respect with the specifications, designs, drawing and instructions in writing referred to in Rule-1 of General Rules and Directions and in Clause 11 of the Conditions of contract and with such materials as are provided for, by, and in respect of accordance with, such conditions so far as applicable.

We agree to keep the tender open for Ninety (90) days from the due date of its opening and not to make any modification in its terms and conditions.

In lieu of EMD, I/We hereby submit Earnest Money Deposit (EMD) Declaration as per 6.1

If I/We, fail to furnish the prescribed performance guarantee within prescribed period, I/We agree that the said Board of Governors or his successors, in office shall without prejudice to any other right or remedy, be at liberty to take action as per my/our EMD declaration as per Annexure-I. Further, if I/We fail to commence work as specified, I/We agree that Board of Governors or the successors in office shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said performance guarantee absolutely. The said Performance Guarantee shall be a guarantee to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to those in excess of that limit at the rates to be determined in accordance with the provision contained in Clauses 12.2 and 12.3 of the tender form.

Further, I/We agree that in case of myself / our self-becoming liable for action as per

my/our EMD declaration or forfeiture of Performance Guarantee as aforesaid, I/We shall be debarred for participation in the re-tendering process of the work.

I/We undertake and confirm that eligible similar work(s) has/have not been got executed through another contractor on back-to-back basis. Further that, if such a violation comes to the notice of Department, then I/we shall be debarred for tendering in Indian Institute of Technology Kanpur in future forever. Also, if such a violation comes to the notice of Indian Institute of Technology Kanpur before date of start of work, the Dean, Infrastructure and Planning shall be free to forfeit the entire amount of Performance Guarantee.

I/We hereby declare that I/We shall treat the tender documents drawings and other records connected with the work as secret/confidential documents and shall not communicate information/derived there from to any person other than a person to whom I/We am/are authorized to communicate the same or use the information in any manner prejudicial to the safety & integrity of IIT Kanpur

Date:

Signature(s) of Contractor(s) with seal

Address:

Occupation:

7 Proforma of Schedules

PROFORMA OF SCHEDULES

(Composite Tender)

7.1 SCHEDULE 'A': Schedule of Quantities

Schedule of Quantities : BOQ uploaded separately

7.2 SCHEDULE 'B': Schedule of materials to be issued to the contractor

Schedule of materials to be issued to the contractor: NIL

7.3 SCHEDULE 'C': Tools and plants to be hired to the contractor

Tools and plants to be hired to the contractor: NIL

7.4 SCHEDULE 'D': Extra schedule for specific requirements/document for the work, if any

Extra schedule for specific requirements/document for the work, if any: NIL

7.5 SCHEDULE 'E': Reference to General Conditions of contract

Reference to General Conditions of contract	:	General Conditions of Contract 2020 for Construction Works & Maintenance work and as amended / modified up to the last date of submission of Bid.
Name of Work	:	“Complete Design and construction for providing access to G+2 Building with passenger lift and a G+3 Building with freight lift as per specifications at IIT Kanpur (SH: Civil and MEP Works including SITC of Lifts)”
Total Estimated cost of work	:	Rs. 91,67,158/-
Earnest Money	:	EMD declaration to be submitted
Performance Guarantee	:	5% of tendered value
	:	After recording of the completion certificate for the work by the competent authority, for the cost component of lifts the 50% (Fifty Percent) performance guarantee shall be returned to the contractor, without any interest. 50% (Fifty Percent) of Performance Guarantee shall be retained as Security Deposit till the completion of the 1 year of AMC period. The same may be returned on the request of the contractor.

	:	The bidder must have to submit the undertaking from OEM during submission of tender as per 6.11
Security Deposit	:	2.5% of tendered value will be deducted from each bill. Same would be released after successful completion of One year defect liability period and as mentioned in special conditions

7.6 SCHEDULE 'F': General Rules and Directions

GENERAL RULES & DIRECTIONS:

Officer Inviting tender: Dean, Infrastructure and Planning

7.6.1 Definitions

1 Inviting Authority	:	Dean, Infrastructure and Planning
2(v) Engineer-in-Charge	:	Engineer Authorized by Dean, Infrastructure and Planning
2(viii) Accepting Authority	:	Director
2(x) Percentage on cost of materials and Labour to cover all overheads and profits	:	15%
2(xi) Standard Schedule of Rates	:	For Civil work: DSR 2021 (Civil Works) & MR with correction slips up to the last date of Bid
	:	For Electrical Work: DSR (E&M), 2022 & MR with up-to-date correction slip
2(xii) Department	:	Infrastructure and Planning, IIT Kanpur
9(ii) Standard CPWD Contract Form	:	General Conditions of Contract 2020 for Construction Works & Maintenance work and as amended / modified up to the last date of submission of Bid.

7.6.2 Clauses

Clause 1

Time allowed for submission of Performance Guarantee, Programme Chart (Time and Progress) and applicable labour licenses, registration with EPFO, ESIC and BOCW welfare board or proof of applying thereof from the date of issue of the letter of acceptance	:	7 days
Maximum allowable extension with late fee @ 0.1% per day of Performance Guarantee amount beyond the Period provided in (i) above	:	7 days
Clause 1A	:	Applicable. The Defect liability period shall be One year from the date of handing over of the assigned works to the user/Institute
Clause 2 Authority for fixing compensation under Clause 2	:	Dy. Director/Director, IIT Kanpur
Clause 2A Whether Clause 2A shall be applicable	:	YES
Clause 5	:	
(i): Number of days from the date of issue of letter of acceptance for reckoning date of start	:	15 Days
ii: Milestones	:	As per Table 7
Clause 6: Computerized Measurement Bill	:	<i>Applicable</i>
Clause 7A	:	Applicable
Clause 10A	:	Applicable
Clause 10B (i)	:	Applicable
Clause 10B (ii)	:	Not Applicable
Clause 10B (iii)	:	Not Applicable
Clause 10C	:	<i>Not Applicable</i>
Clause 10CA	:	<i>Not Applicable</i>
Clause 10CC	:	Not applicable

Clause 11	:	CPWD Specification 2019 Vol. I &II, and latest CPWD specifications of all E&M items, with correction Slips issued up to the last date of receipt of tenders (herein called CPWD Specifications also) and as per NIT for E&M works. Specifications to be followed for execution of Civil work and E&M works
Clause 12: Type of work	:	Original Work
Clause 12.2 & 12.3: Deviation limit beyond which clause 12.2 & 12.3 shall apply for Building & foundation work (except items mentioned in earth work in DSR and related items)	:	30%
Clause 12.5(ii) Deviation limit for items mentioned in the earth work subhead of DSR and related items.	:	100%
Clause 16 Competent Authority for deciding reduced rates: For Civil items and For Electrical items of work	:	As per Table 8
Clause 17 - Defect liability period completion of contract whichever is later	:	One year and those listed as terms & Conditions of Contract
Clause 18 - List of mandatory machinery, tools & plants to be deployed by the contractor at site	:	Those Listed in Special Conditions of Contract, if any
Clause 32 - Requirement of Technical Representative(s)	:	as per Table 10
Clause 38	:	as per Table 11

If the Contractor commits default in commencing the execution of the work as aforesaid, the performance guarantee shall be forfeited.

The detailed program chart approved by the engineer-in-charge shall indicate how the resources will be deployed by the contractor to maintain desired progress and for the completion of the work within the specified period. If the submitted program is approved, the milestone shall be redefined accordingly by the Dean, Infrastructure and Planning, Indian Institute of Technology Kanpur. The amount to be withheld in such a case, for non-achievement of milestone(s), shall remain unaltered i.e., 5% (Five Percent) of tendered amount.

Time allowed for execution of work : Two (2) months

Table 7: Major milestones of the project

Sl. No.	Description of Milestone (Physical)	Time allowed from date of start	Maximum Duration of work	Amount to be with-held in case of non-achievement of milestone (% of composite tendered amount)
1	All Construction works required for Installation of NSAC Lift	45 Days	45 Days	5
2	SITC of NSAC Lift	45 Days	45 Days	5
3	All Construction works required for Installation of CEAF Lift	60 Days	60 Days	5
4	SITC of CEAF Lift	60 Days	60 Days	5

Table 8: Authority to decide

(i)	Extension of time (EOT)	:	Dy. Director/Director, IIT Kanpur
(ii)	Rescheduling of milestones	:	Dean, Infrastructure and Planning, IIT Kanpur
(iii)	Shifting of date of start in case of delay in handing over of site	:	Dean, Infrastructure and Planning, IIT Kanpur

Table 9: Materials for which all India Wholesale Price Index to be followed

Sl.No	Material covered under this clause	Nearest Materials (other than cement, reinforcement bars and the structural steel) for which All India Wholesale Price Index to be followed	Base Price (without GST) of Materials, covered under clause 10 CA
1	Portland Pozzolana Cement (PPC)/ Ordinary Pozzolana Cement	Nil	Nil
2	Steel for Reinforcement TMT Fe 500D Primary Manufacturer	Nil	Nil
3	Structural Steel (Primary producers)	Nil	Nil

Table 10: Requirement of Technical staff for the work component(s), Clause 32

Sl No.	Requirement of Technical staff (of the work components)		Minimum experience in Year	Designation	Rate at which recovery shall be made from the contractor in the event of not fulfilling provision of Clause 32	
	Qualification	Number			Figures	Words
1	Graduate Engineer (Or Diploma Engineer)	1	5 years	Project Planning/ Construction/ quality/ billing Engineer (Civil)	Rs. 15,000/-pm per month per person	Rupees Fifteen Thousand only per month per person
2	Graduate Engineer (Or Diploma Engineer)	1	5 years	Project Planning/ quality/ billing Engineer (Electrical & Mechanical)	Rs. 15,000/-pm per month per person	Rupees Fifteen Thousand only per month per person

Note 1: Assistant Engineers retired from Government services who are holding Diploma will be treated at par with Graduate Engineers. *Diploma holder with minimum 10 years relevant experience with a reputed construction co. can be treated at par with Graduate Engineers for the purpose of such deployment subject to the condition that such diploma holders should not exceed 50% of requirement of degree engineers.*

Note 2: Project/Site Engineer for Electrical work mentioned must be required from the beginning of the work and both civil and electrical work has to happen in a coordinated manner to meet the date of handover of site as per special terms and conditions.

Table 11: Schedule/statement for determining theoretical quantity and Variation of permissible (Clause 38)

		Schedule/statement for determining theoretical quantity of cement, bitumen etc. on the basis of Delhi Schedule of Rates 2021 printed by CPWD with correction slips up to the last date of submission of tenders
(i)	(a)	
		Variations permissible on theoretical quantities:
(ii)	(a)	Cement $\pm 2\%$ (Two percent)
	(b)	Bitumen for all works $+2.5\%$ (Two-point Five percent) only and nil on _ (minus) side
	(c)	Steel Reinforcement and structural steel sections for each diameter, section and category $+2.0\%$ (Two-point Five percent) only and nil on _ (minus) side
	(d)	Paint As per co-efficient of standard Delhi Analysis of Rate 2021
	(e)	Any other item As per manufacturer's specification

8 Scope of work

8.1 Work Items

The Institute desires to get some Lift construction (all Civil works, MEP, SITC of Lifts) done on a priority. The scope of the work includes:

- (a) Design and construction for providing access to NSAC with passenger lift.
 - i. All Construction works required for Installation of the Lift
 - ii. SITC of 01 No. 13 passengers gearless & machine room less elevator.
- (b) Design and construction for providing access to CEAF (Animal House Building) with freight lift.
 - i. All Construction works required for Installation of the Lift
 - ii. SITC of 01 No. 02Ton gearless & machine room less freight lift.
- (c) Annual maintenance services for one year for both the lifts.

Note: The scope of the works listed above is indicative only. For the details of the works, please refer to the BoQ and the work has to be done strictly as per the specifications in the BoQ and regarding the maintenance services special terms and conditions need to be strictly followed.

8.2 List of Preferred Makes for Civil Works

Preferable makes of materials to be used in the work are as under. In case of non-availability of these makes, the Engineer-in-charge may allow use of alternative BIS makes of materials in the work. Non-BIS marked materials may be permitted by the Engineer-in-charge. This is a general list of makes. All makes applicable as per Schedule of Quantities must be as per the Institute preferred make.

No.	Material description	Manufacturer / Brand Name
1	Ready Mix Concrete	Ultratech Concrete, ACC Ready Mix, RMC India and NUVOCO
2	Cement (PPC/OPC)	ACC, Ultratech, Vikram, Shree Cement, Abuja, JK Cement, Century Cement, Jaypee Cement & Prism Cement.
3	White Cement	Birla White, J.K. White.
4	Reinforcement Bars	SAIL, Tata Steel Ltd, RINL, Jindal Steel & Power Ltd. and JSW Steel Ltd
5	Water proofing compounds, admixtures, plasticizer, super plasticizer, curing compounds	Fosroc, ROFF/Dr. Fixit (Pidilite Industries), STP Ltd., Sika, BASF, Ardex Endura & Parma Construction Aids Pvt. Ltd.

6	Integral water proofing compound with cement (for plaster & mortar)	Fosroc: Conplast 421, Dr. Fixit : LW+, Sika: Sikacim, Asian Paint: SmartCare Vitalia & equivalent product of BASF, STP Ltd., Ardex Endura, Perma Construction Aids Pvt. Ltd.
7	Water proofing compound for bathroom/ toilet /balcony & other wet areas	Fosroc: Bush Bond, STP Ltd.: Shalcrete, CICO: Tapecrete, Dr. Fixit : Pidifine 2K, Sika : Topseal 107, Asian Paints: Damp Block 2K & equivalent product of BASF, Ardex Endura, Perma Construction Aids Pvt. Ltd.
8	Crystalline water proofing compound	Fosroc: Bushbond TGP, Dr. Fixit : Dr. Fixit Krystalline, Sika: Sika 101h, Asian Paints: SmartCare & equivalent product of BASF, Ardex Endura, STP Ltd., Perma Construction Aids Pvt.
9	Grouts, Tile Adhesive	Laticrete, STP Ltd., Kajaria, BASF, Perma, Ardex Endura, JK White & Ferrous Crete.
10	Structural steel	SAIL, Tata Steel, Rashtriya Ispat Nigam Ltd. (RINL), JSW Steel Ltd., Jindal Steel & Power Ltd.
11	Polycarbonate sheet	GE Plastic, LEXAN & MG Polyplast
12	Profile steel sheet	Ezydeck of TATA, Lloyd Superdeck, JSW, Jindal
13	Particle board	Action TESA, Merino, Archidply & Orion Doors
14	Laminates	Action TESA, Greenlam, Century Ply, Merino, Archidply, Virgo & Orion Doors
15	Flush door shutters	Duro, Century, Durian, Archidply, Green Ply, JAYNA (Jain Wood Industries), Jain Doors Pvt. Ltd., GREENPANEL & Orion Doors Note: Only ISI marked flush door shutters to be used.
16	Fire rated doors	Signum fire protection, Shakti Metdoor, NAVAIR, Promat, Thrislington, Sukri & Bhawani. If fire rated glass is integral part of fire rated door than it should be of one of the following makes: Pyroguard, Saint Gobain, Asahi India, Pilkington & Schott
17	False ceiling system	Armstrong, USG Boral, Saint Gobain, Aerolite, Interarch, Hi- steel of PR Ceiling Products
18	Plywood / Veneer	Greenply, Century, Merino, Durian, Archidply, GREENPANEL & Orion Doors
19	Melamine polish	Asian Paints melamine gold, Wudfin of Pidilite & Timbertone of ICI Dulux.
20	Floor spring & door closer	Godrej, Dormakaba, Dorset & Kich

21	Aluminum section	Hindalco, Jindal & Indian Aluminium Co.
22	Anodized aluminum hardware (Heavy Duty)	Kilon, Alualpha, Classic & Ebco.
23	Clear / Float/Frosted/Toughen Glass/ Refractive Glass	Saint Gobain, AIS & Modiguard
24	Stainless steel railing, Accessories etc.	JINDAL, Dormakaba, Kich, GEZE, Godrej & Hardwyn
25	SS fittings for doors & window	Jindal, Dormakaba, Kich, Dorset, Godrej, Ozone & Define
26	Silicon based water repellent/weather sealant	GE Plastics, STP Ltd., Dow Corning, Waker, BASF & Pidilite (Dr. Fixit/Roff).
27	Poly-Sulphide Sealant	Fosroc, STP Ltd., Pidilite (Dr. Fixit/Roff), Sika & BASF
28	Mosaic tiles/Chequered Tiles	Ultra Tiles, NITCO, Hyper, Mayur & Pavcon
29	Glazed Ceramic Tiles	Kajaria, NITCO, Orient Bell, Johnson, Somany, RAK & Varmora
30	Vitrified Tiles (Antiskid / Matt / Glazed)	Kajaria, NITCO, Orient Bell, Johnson, Somany, RAK, Varmora & Restile
31	Paver block & Kerb stone	Pavcon, Hyper, Mayur, KK, Power, Sharda & Navya
32	Cement Based wall putty	Asian Paints, Birla Wall Care, JK White & Berger
33	Oil bound washable distemper / dry distemper	Asian Paints (Professional Acrylic Distemper), Nerolac: Beauty Acrylic Distemper, Berger: Bison Acrylic Distemper& Dulux ICI: Maxilite
34	1st quality acrylic distemper (washable/ ready mix / Low VOC)	Asian Paints (Tractor Aqua Lock Paint), Berger: Commando or equivalent paints of Nerolac & ICI-Dulux
35	Acrylic emulsion paints	Asian Paints: (Professional Premium Interior Emulsion Paint),Nerolac: Beauty Gold, Berger: Rangoli Total Care & ICI Dulux: Super Cover
36	Plastic emulsion paint	Asian Paints: (Apcolite Heavy Duty Premium Emulsion Paint), Nerolac: Impression, Berger: Easy Clean & ICI Dulux: 3 in 1
37	Premium acrylic emulsion paints (Interior)	Asian Paints: (Royale Luxury Emulsion), Nerolac: Impression, Berger: Silk & ICI Dulux: Velvet Touch
38	Textured exterior paint	Asian Paints, Nerolac, Berger Paints, Ultratech Paints &Luxture

39	Acrylic smooth exterior paint	Asian Paints: (Apex/Professional Premium Exterior Emulsion), Nerolac: XL, Berger: Weather Coat & ICI Dulux: Weather Shield.
40	Premium acrylic smooth exterior paint with silicon additive	Asian Paints: Apex Ultima, Nerolac: XL total, Berger: Weather Coat all Guard & ICI Dulux : Weather Shield Max
41	Synthetic Enamel Paint	Asian Paints: Apcolite Premium Gloss Enamel, Nerolac: Synthetic Hi gloss, Berger: Luxol Hi gloss & ICI Dulux: Gloss Synthtic enamel.
42	Cement Primer	Nerolac, Berger (BP white), STP Ltd., Asian (Decoprime WT) & ICI (White primer).
43	Steel primer (Red Oxide Zinc Chromate Primer)	Asian Paints, Nerolac, Berger & ICI
44	Wood primer	Asian Paints (wood primer - White/Pink), Berger, ICI & Nerolac
45	Epoxy paint	Asian Paints, STP Ltd., Nerolac, Berger, ICI, Kansai & Akzo Nobel
46	Fire paint	Asian Paints, STP Ltd., Akzo Nobel, PROMAT & JOTUN
47	GI/MS Pipe	Tata, Jindal (Hisar) & Prakash Surya
48	GI Fittings	Unik, AVR & Zoloto
49	HDPE Pipes	Reliance, Jain Pipes, ORIPLAST & Supreme
50	DI Pipes & fittings	Electrosteel, Jindal, TATA DUCTURA, Kapilansh & Kesoram
51	UPVC pipe and fittings	Astral, Supreme, Prince, M/s Skipper Ltd., Ashirwad & Prayag Polymers Pvt. Ltd.
52	SW Pipes (BIS approved)	Anand, Parry & Perfect
53	Centrifugally Cast (Spun) Iron Pipes & Fittings /Hub less pipes & fittings	NECO, BIC, Kapilansh, SKF, Raj Pattern Makers & Founders Pvt. Ltd. or any other ISI marked make
54	CI Manhole covers, frames & GI Gratings	NECO, BIC, SKF & Kapilansh
55	SFRC Manhole covers & gratings	KK, JAIN & PARGATI
56	CP brass fittings (Superior Range)	Jaquar, Grohe & Roka.
57	CP brass fittings (Normal Range)	ESSCO (by Jaquar), Parryware, CERA, Kerovit (Kajaria), Johnson & Prayag Polymers Pvt. Ltd.

58	Sanitary ware, fittings & accessories	Kerovit (Kajaria), CERA, Jaquar, Parryware, Hindware & Prayag Polymers Pvt. Ltd.
59	Mirror glass	Atul, Modi Guard & Golden Fish
60	CPVC Pipe & fitting	Astral, Superme, Prince, M/s Skipper Ltd., Ashirwad & Prayag Polymers Pvt. Ltd.
61	Stainless steel sink	Neelkanth, Niralli, Jyna & Prayag Polymers Pvt. Ltd.
62	FRP doors shutters & frame	Jayna, Fiberways, Jain Doors Pvt. Ltd. & Selected Product Co.
63	Extruded polystyrene insulation board	Dowcorning, Supreme, Texas & Analco
64	Gypsum plaster	Ferrous Crete, Gyproc Saint Gobain, Ultra Tech & JK White
65	Floor hardener	Ironite, Perma, STP Ltd., Ferrok & Hardonate
66	Modular Expansion Joint	Herculus, Sanfield India Ltd & Vexcolt
67	Glass Wool	Dow Corning, UP Twiga & Isover
68	uPVC door/window/ventilator	Fenesta, Komerling, Rheau, Veka, Duroplast, Aluplast & Advika Profiles Pvt. Ltd. (Fabrication and installation will be done by profile manufacturer or his authorized fabricator).
69	uPVC doors and window hardware	Roto, Dorset, DNV Accado & Kinlong
70	AAC block Adhesive	UltraTech, Perma, Ardex Endura & Ferrous Crete
71	PVC Water Tank	Syntex & Vectus
72	AAC Block	MAX Blocks, UltraTech, HIL & BILTECH ACE and Gravit
73	Modular Kitchen	Everyday/Hettich/Steel Art Brand Baskets of AISI 304(18/8); Hettich/Hafele Brand Auto Closing Concealed Hinges; DMS/ Dynasty/ Indoline Brand Shutters
74	Aluminum shuttering	Knest, S-form, Durand Forms (India) Pvt. Ltd. & Mivan
75	MS Tubular windows & Pressed Steel door frames	Jangid Engineering Works, AGFUV, Sen Harvic, Navair Delhi & Sukriti Delhi
76	Dash fasteners /Anchors	Hilti, Bosch & Fischer

केन्द्रीय लोक निर्माण विभाग
कार्यालय ज्ञापन

No. DG/MAN/410

ISSUED BY AUTHORITY OF DIRECTOR GENERAL, CPWD

NIRMAN BHAWAN, NEW DELHI

DATED: 22.10.2021

Subject: Addition of new Para 4.10.2 in CPWD Works Manual 2019 regarding testing charges to be borne by contractor.

It has been noticed that following provisions are sometimes being made in the NITs / Agreements by the NIT approving authorities:

"The cost of test shall be borne by contractor/ department in the manner as below:

- i. By the contractor, if the result shows that material does not conform to the relevant codes/ specification.
- ii. By the department, if the results show that the material conforms to relevant codes/ specification."

It has been decided by the competent authority that testing charges shall be borne by the contractor in all cases. Accordingly following new para is added in CPWD Works Manual -2019.

Existing Provision	Modified Provision
4.10 Preparation of NIT	4.10 Preparation of NIT
4.10.2 No Provision	4.10.2 Testing charges to be borne by contractor
	Following provision shall be incorporated by the NIT approving authority in the NIT:
	All expenditure to be incurred for testing of samples e.g. packaging, sealing, transportation, loading, unloading etc. including testing charges shall be borne by the contractor. The NIT shall have list of approved laboratories for testing as approved by ADG / SDG.

This issues with the approval of competent authority.

(वी.पी. साहु) 22/10/2021

अधीक्षण अभियंता(सी.एंड एम.)

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प्रतिलिपि: सभी केलोनिवि तथा लोनिवि दिल्ली के अधिकारियों को आवश्यक सूचना एवं कार्यवाही हेतु।(केलोनिवि वेबसाईट के माध्यम से).

Figure 1: Modified provisions in CPWD works manual 2019 regarding testing charges to be borne by contractor

8.3 Preferable Makes for E& M Works

The makes of various components (as applicable) are listed as follows:

S. No.	Items	Makes
1	MS Conduit (ISI marked) with heavy duty accessories	BEC/ AKG / RM CON / Steel Krafts
2	PVC/ XLPE insulated aluminium/Copper conductor armoured	Havells / Finolex / KEI / Grandlay/ Polycab
3	unarmoured MV Cables up to 1100 V (ISI Marked)	
4	FRLS PVC insulated copper conductor stranded flexible wires i/c control cables (ISI Marked)	Havells / Finolex / KEI / Grandlay/ Polycab
5	Cable Raceway Floor / wall mounted and accessories	Legrand / MK (Honeywell) / OBO
6	Cable Tray & Accessories	Venus/ MEM /BEC/ RM CON/ Indiana
7	Modular Switch , Socket & Accessories	Legrand (Myrius) / M.K.(Element) / Schneider (Zencelo)/Legrand (Arteor)
8	Metal clad Industrial Socket outlet and Sheet Steel Enclosure for MCCB/MCB	Legrand / Siemens / Schneider/ Hager
9	Cable Glands	Dowells/ Commet / Gripwell/ Raychem
10	Lugs and end termination	Dowells/Commet/Braco
11	Change over switch	L&T / Socomac / ABB / Schneider
12	Distribution boards	Siemens (Betagard), / Hager/ Schneider (Acti9) / Legrand (<i>Ekinor3³</i>)/ L&T(Exora) /ABB(Elegence)
13	Protection Device (MCB/RCCB/RCBO/ELCB)	Siemens (5SL), / Hager/ Schneider (Acti9) / Legrand (DX 3)/ ABB(S200M)/L&T
14	Current transformer/ Potential transformer	AEL/ Gilbert & Maxwell/ Pragati/ Precise/L&T/ Kappa
15	Indicating Lamps LED type, Push Button	Siemens/ L&T / Schneider / Legrand

16	Electronic Digital Meters	Schenider (Conzerv)/ L&T/Secure/Siemens/ ABB/Legrand
17	MCCBs	Siemens (3VL) / L&T (D sine)/ Schneider (CVS) / Legrand (DPX 3)/ ABB (T max)
18	Power contactor	L&T (MNX) / Schneider (TesyS) / Legrand (<i>CTX³</i>)/ABB(Ax)
19	Surge Protection Devices	Siemens/L&T / Schneider / Le- grand/ OBO
20	Selector Switch	Salzer/Seimens/BCH/Kaycee/L&T
21	Auxiliary Relays	Siemens/ L&T / Schneider / Le- grand / ABB
22	LED Lighting fixture	Philips/ Wipro/ Havells/ Crompton
23	Emergency Lighting / Exit Sign boards	Bajaj/ Prolite/ Glo-LIne
24	Ceiling Fan, Fresh Air Fan, Ex- haust fan	Havells/ Crompton/ Usha/ Ori- ent/Atomberg
25	Paint	Nerolac / Asian / Berger/ICI
26	Lightning Protection System	OBO/ Cape Electric/ Infinite/ APS/Jeff Techno/Axis
27	G.I. Pipe	Tata, Jindal-Hissar, Prakash Surya
28	Rubber Mat (ISI Marked)	Jyoti / Deep Jyoti/ Premier
29	Fire Extinguisher	Minimax/ Life Guard/ Cease Fire / Newage
30	ACB (Air Circuit Breaker)	Siemens (3WL-ETU 45B) / Schneider (Master Pact NW -6.0P) / L&T (U power omega -MTX 3.5 EC) / Legrand (DMX 3 MP4)
31	CU/GI strip & GI wire for earthing	Jeff Techno/Axis/OBO
32	MS Conduit (ISI marked)	BEC/AKG/NIC/Steel craft/ M-Key, SK (E.R.W)
33	PVC Conduit and accessories	Polycab/AKG/Asian
34	1.1 KV aluminium armoured XLPE insulated and PVC sheathed Cable (LT cable)	Havells/KEI /Finolex/ Grandlay
35	Modular Switch & Socket	Legrand (Myrus)/M.K. (Ele- ment)/Schneider (Zencelo In- dia)/Havells/ ABB

36	Metal clad Industrial Socket	Legrand/Siemens/Schneider/C&S/ABB
37	Cat-6 Cable	Beldon/Siemon/Legrand/Penduit (Pannet)
38	Crimp Patch Cord	Beldon/Siemon/Legrand/Penuit (Pannet)
39	Panel Accessories	Siemens /L&T/Schneider / Legrand/Tecnic / ABB/ C&S/Neptune
40	LED/Metal Hal- ide/Fluorescent Lighting Fixture	Internal Philips/ Wipro/Havells/Crompton
41	External Lighting Fixture	Philips/ Wipro/Havells/Crompton
42	Ceiling Fan (ISI marked & BEE rated 5 star)	Havells/Almonard/Orient/Usha/Bajaj
43	Advance Lighting Protection System (Early Streamer Emission Type)	LPI (Australia)-by allied power/SGI (Duval Messien/satellite (France)- by SGI/Bradlay (USA)- by JMV/Erico (USA)-by security shoppe/ABB
44	Main LT Panels/ MCC Panel	(Main LT panel / MCC Panel board should be IEC 61439 part-1 and II manufacturer has to produces the relevant test certificate as per IEC code for the same failing which panel shall be rejected). L & T /Siemens / Schneider/ ABB/Legrand
45	Air Circuit Breaker	Siemens / Schneider /L&T /Legrand/ C&S/ABB
46	Surge Voltage Protection	Siemens /Schneider/L&T/Legrand/ABB
47	Earth fault module	Siemens/Schneider/L&T/Legrand
48	Protection relays	Siemens/Areva/L&T/Legrand
49	C.Ts and PTs	Kappa/AE/Matrix
50	Digital Meters	Siemens (PAC)/ Schneider/ (conzerv) / Secure Enersol / L&T/ Neptune
51	Indicating lamps	ESBEE/Schneider/Siemens/Vaishno/Neptune
52	Power capacitors	Epcos/ Neptune / Legrand /ABB/ L&T
53	Automatic Power factor correction relay/controller	Epcos/Siemens (PAC) /Schneider (Conzerv)/L&T/Neptune
54	Sealed Maintenance Free Batteries	Exide/Panasonic/Hitachi/Shinkobe

55	Battery charger	Caldyne/Chhabi Electricals/Statcon/Max Power
56	Cable Trays (Factory Fabricated/Overhead & Floor Raceways)	Legrand/MEM/OBO/ Milestone/ Neptune
57	HDPE underground cable duct	Rex Polyextrusion/Tirpura/Plasomatics/Duraline
58	Insulation Mats	DL Miller & Co. Ltd./Premier Polyfilm Ltd./RMG Polyvinyl India Ltd/Jyoti
59	Smoke/Heat detectors	Apollo/ System Sensor/ Agni
60	Manual Call point	PRD/System-Tek/ Simplex/ System Sensor/Agni
61	Response indicators	PRD/System-Tek/ Simplex/ System Sensor/Agni
62	Fire Exit Signs	System-Tek/ Simplex/ Agni
63	Fire Control Panel	System-Tek/ Morley /Agni
64	Speaker / Hooter	System-Tek/ Philips /Agni
65	Occupancy Sensors/ Movement Sensor	Legrand/ Philips/ Wipro
66	Flush type switch /socket	Anchor/ Kinjal/ SSK/ Havells Reo
67	Fuse switches unit / switch fuse unit /HRC fuse	L&T / Siemens/ Havells/ C&S
68	Exhaust fan	Almonard/ Alstom/ Crompton/ Havells
69	XLPE insulated HT cables	KEI/Havells
70	Cable lug	Ascon (Heavy gauge) Jainson Dowells
71	Telephone wires/Telephone Cable / jelly filled telephone cables	Finolex /Delton/Havell's
72	Telephone tag blocks	Krone/ Pouyet
73	Telephone outlet	MK Electric /Legrand (Mosaic)/Crabtree (Piccadilly)
74	GI raceways	Milestone Engineering /Legrand/MDS/Neptune Systems Pvt. Ltd./MK
75	PVC raceways	Legrand/ MK
76	Electronic ballast	Philips /Wipro/Bajaj/Decon/Crompton/Havells

77	DLP plastic trunking	Legrand/MK
78	Geysers	Recold /Venus /Usha Lexus /Sphere hot
79	Tower Light	Ligman/Simes/Bega
80	HT/LT transformers	ABB/Schneider /CGL (Crompton Greaves Ltd.)
81	HT SF-6 circuit breakers/VCB	Siemens /ABB/CGL/Schneider
82	Programmable Logic Controller(PLC)	Siemens/Allen-Bradley/Schneider
83	Earthing (Chemical Earthing) Plate Earthing	JMV/As per CPWD Norms
84	Octagonal Pole	Bajaj / Crompton / Phillips
85	11 kV HT panel Incoming relay	CGL/Schneider/ABB/ Siemens
86	Control Relay Panel	CGL/Schneider/ABB
87	Lightning Arrestor	ABB/Alltec/JMV
88	Temp. Gauge	Guru
89	Gate Valve	Leader/Sant
90	Electrical Backup	Spare hot/ Racold
91	PVC Tank	Syntex/ Polycon
92	Thermostat	ISI Marked
93	Flat Collector Plate	Solocrome/ Tata BP/ Racold
94	S.S Sheet	Jindal / National
95	HT/LT cable joints (Straight through/outdoor/indoor)	3M/ Denson/ M Seal/Raychem/ Cabseal
96	Alternator	STAMFORD/Crompton Greaves
97	DG Set	Sterling & Wilson /Caterpillar/Commins Power /eneration/ Kirlosker
98	Makes of accessories of HT / LT Panel / Transformers	As per standard practice of manufacturer.
99	Bus Trunking	C&S / L&T/ Schneider as per standard practice of OEM manufacturer / channel partner
100	HT Panel 11 KV	ABB/Schneider /CGL (Crompton Greaves Ltd.)
101	Bus Duct	Neptune/ Milestone/Tricolite
102	Lamp Holder (Brass)	Kay/SSk/Kinjal

Any other item not covered in the above list shall be ISI marked and as approved by Engineer In Charge.

9 Special Conditions of Contract

9.1 Timely Completion

- (a) The work included in this tender is urgent.
- (b) All work components must be started simultaneously and has to be delivered together or early within the given time schedule.
- (c) The contractor has to deploy the labor and supervisory staff in shifts to meet the targeted completion date. The work may be executed in extended shifts or two shifts.
- (d) Number of days from the date of issue of letter of acceptance for reckoning date of start shall be as per Schedule. *If the Contractor commits default in commencing the execution of the work as aforesaid, the performance guarantee shall be forfeited.*
- (e) The detailed program chart approved by the engineer-in-charge shall indicate how the resources will be deployed by the contractor to maintain desired progress and for the completion of the work within the specified period. If the submitted program is approved, the milestone shall be redefined accordingly by the Dean of Infrastructure and Planning, IITK. The amount to be withheld in such a case, for non-achievement of milestone(s), shall remain unaltered. Any delay in achieving the milestone must be compensated within the limitations of time imposed in the Contract document
- (f) The tenderer should inspect and examine the site and its surroundings by before submitting his tender.
- (g) The contractor shall procure the required materials in advance so that there is sufficient time for testing of the materials and approval of the same before use in the work, as required.

9.2 Rates

- (a) Unless otherwise provided in the schedule of quantities of the work the rates tendered by the contractor shall be all inclusive and shall apply to all heights, lifts, leads and depths of the building, exclusive of GST and nothing extra shall be payable to him on this account.
- (b) The rates for all items of work shall, unless clearly specified otherwise, include cost of all labours, materials and other inputs involved in the execution of the item irrespective of whether they have been specifically mentioned in the tender document or not.
- (c) In case the same item (s) appear more than once in the schedule of work / BOQ under the same sub head or among the different subhead of works, the lowest rate quoted for that item (s) shall be considered for the particular item(s) wherever appeared in any part of BOQ / Schedule of works for the purpose of tender evaluation although web generated e-price bid may incorporate different quoted rate for same item(s) as per the quoting pattern of the tenderer. The tendered amount thus worked out shall be final & shall be binding on the contractor.
- (d) The rates quoted by the contractor will be deemed to be inclusive of any extra expenditure of this reason. The contractor has to increase the manpower or other tools etc. to do the work as per the quantum of work provided to him at his own expenses. Nothing shall be paid on this account.

- (e) The contractor shall provide at his own cost suitable weighing, surveying and leveling and measuring arrangements as may be necessary at site for checking. All such equipments shall be got calibrated in advance from laboratory, approved by the Engineer-in-Charge. Nothing extra shall be payable on this account.
- (f) Other agencies may also simultaneously execute and install the works and the contractor shall afford necessary facilities for the same. The contractor shall leave such recesses, holes, openings, trenches etc. as may be required for such related works (for which inserts, sleeves, brackets, conduits, base plates, clamps etc. shall be available as specified elsewhere in the contract) and the contractor shall fix the same at the time of casting of concrete, stone work and brick work, if required, and nothing extra shall be payable on this account.
- (g) All material shall only be brought at site as per program finalized with the Engineer-in-Charge. Any pre-delivery of the material not required for immediate consumption shall not be accepted and thus not paid for.
- (h) Water tanks, taps, sanitary, water supply and drainage pipes, fittings and accessories should conform to approved manufacturers specifications where CPWD Specifications are not applicable. The contractor should get the materials (fixtures/fittings) tested from approved labs wherever required at his own cost.
- (i) The contractor shall be responsible for the watch and ward / guard of the buildings, safety of all fittings and fixtures including sanitary and water supply fittings and fixtures provided by him against pilferage and breakage during the period of installations and thereafter till the building is physically handed over to the client department. No extra payment shall be made on this account.
- (j) The rates quoted by the Contractor are deemed to be inclusive of site clearance, setting out work, profile, establishment of reference bench mark(s), taking spot levels, construction of all safety and protection devices, barriers, preparatory works, working during monsoon, working at all depths, height, lead, lift and location etc until / unless specified otherwise and any other incidental works required to complete this work. Nothing extra shall be payable on this account.

9.3 Quality and Workmanship

- (a) The contractor shall be entirely responsible and answerable for all the works done by him regarding quality, adherence to the laid down specifications, terms and conditions, warranty/guarantee etc. and he shall be liable to bear any compensation that may be levied by the department under any of the clauses of the agreement.
- (b) The materials having ISI mark shall have precedence over the one conforming to IS Specifications.
- (c) There shall be pre dispatch factory inspection for all major equipment's like lift.
- (d) The visiting & lodging expenses shall be borne by the Institute and not to be loaded into the contract except the testing charges. The contractor shall only facilitate the inspection at manufacturing works. However any transportation, freight, loading & unloading of lift for testing at the manufacturing location shall be included in the price quote.

- (e) The lift manufacturer shall comply with BIS standards, duly certified by the manufacturer itself.
- (f) The contractor shall be complaint to the Public Procurement (Preference to make in India), Order 2017 (as amended from time to time) issued by the Department of Industrial Policy and Promotion (DIPP), ministry of Commerce and Industry.
- (g) The complete lift installation including its components, safety devices, various types of controls etc., testing, inspection, operation & maintenance shall confirm to relevant Codes, Standards code of practices, guidelines, safety rules, inspection manual (s), rules issued by Bureau of Indian standards, as amended up to the last date of receipt of tenders.
- (h) The proposed buildings/ infrastructure are Institute housing and quality of work is paramount importance. Contractor shall have to engage well experienced skilled labour and deploy modern T&P and other equipment to execute the work.
- (i) Hydra Crane, Chain Pulley block, welding machine with safety kit, Gas cutter machine with safety kit, Hydro Testing Equipment, Ultra Sonic Flow meter, Multimeter, drill machine, crimping tools, spanner set, blower, welding torch, vacuum pump, air compressor, meggar etc. machinery, tools & plants need to be deployed by the contractor at site.
- (j) Samples of all materials and fittings to be used in the work in respect of brand manufacturer and quality shall be approved from the Engineer-in-Charge, well in advance of actual execution and shall be preserved till the completion of the work.
- (k) All materials used in the work shall be new and of good quality, conforming to the relevant specifications as per good engineering practice. All the materials proposed to be used in the work should be approved from Engineer in Charge before use in work.
- (l) Articles bearing BIS certifications mark shall only be used unless no manufacturer has got BIS/ISI mark for the particular material. Any material/fitting whose sample has not been approved in advance and any other unapproved material brought by the contractor shall be immediately removed as soon as directed. Where the make of any particular material is not specified in the Contract document, the material shall be supplied as per makes desired by the engineer-in-charge.
- (m) It will be the responsibility of the contractor / bidder to ensure use of genuine materials in the work. The department reserves the right to get (any / all materials / components) inspected by the manufacturer or their authorized representatives at any stage of the execution of work. If any of the materials, supplied and used in work is found spurious at any stage, then the department reserves the right to ask the contractor to replace it by genuine one and make suitable recovery till it is done, even if any payment against that material is already made.
- (n) The contractor should get the make/TDS documents approved before procuring any material at site. The TDS/Make once approved shall not be changed without any valid recorded reasons. No material to be brought and used at site without the prior knowledge & approval of Engineer-in-Charge.
- (o) The department may ask for any valid document like manufacturer's test certificate, document for purchase of the material, document for import/shipment of imported materials etc. as deemed fit by the engineer-in-charge to ascertain genuinely of

material supplied by/used in the work by the contractor. The contractor shall remain bound to submit all such documents to the department failing which payment may not be made or if already paid may be recovered/ withheld from subsequent running account payment.

- (p) All equipment and their components, and all the materials to be used in the work shall be suitable for the environmental conditions at the location of the work.
- (q) The contractor shall ensure quality control measures on different aspects of construction including materials, workmanship and correct construction methodologies to be adopted. He shall have to submit quality assurance programme within two weeks of the award of work. The quality assurance programme should include method statement for various items of work to be executed along with check lists to enforce quality control.
- (r) The contractor shall get the source of all other materials, not specified elsewhere in the document, approved from the Engineer-in-Charge. The contractor shall stick to the approved source unless it is absolutely unavoidable. Any change shall be done with the prior approval of the Engineer-in-Charge for which tests etc. shall be done by the contractor at his own cost. Similarly, the contractor shall submit brand/ make of various materials not specified in the agreement, to be used for the approval of the Engineer-in-Charge along with samples and once approved, he shall stick to it.
- (s) Other Laboratories: The contractor shall arrange carrying out of all tests required under the agreement through the laboratory as approved by the Engineer-in-Charge and shall bear all charges in connection therewith including fee for testing. The said cost of tests shall be borne by the contractor/department in the manner indicated below.
 - i. By the contractor, if the results show that the test does not conform to relevant CPWD Specifications / BIS code or specification mentioned elsewhere in the documents.
 - ii. By the department, if the results conform to relevant CPWD Specifications / BIS code or specification mentioned elsewhere in the documents.

If the tests, which were to be conducted in the site laboratory, are conducted in other laboratories for whatever the reasons, the cost of such tests shall be borne by the contractor.

- (t) Sample of materials fittings and other articles required for execution of work shall be got approved from the Engineer-in-Charge. Articles manufactured by companies of repute and approved by the Engineer-in-Charge shall only be used. Articles bearing BIS certification mark shall be used in case the above are not available, the quality of samples brought by the contractor shall be judged by standards laid down in the relevant BIS specifications. All materials and articles brought by the contractor to the site for use shall conform to the samples approved by the Engineer-in-Charge which shall be preserved till the completion of the work.
- (u) The contractor shall ensure quality construction in a planned and time bound manner. Any sub-standard material/work beyond set out tolerance limit shall be summarily rejected by the Engineer-in-Charge.
- (v) BIS marked materials except otherwise specified shall be subjected to quality test

at the discretion of the Engineer-in-Charge besides testing of other materials as per the specifications described for the item/materials. Wherever BIS marked materials are brought to the site of work, the contractor shall if required, by the Engineer-in-Charge furnish manufacturers test certificate or test certificate from approved testing laboratory to establish that the material produced by the contractor for incorporation in the work satisfies the provisions of BIS codes relevant to the material and/or the work done.

- (w) The contractor shall procure all the materials at least in advance so that there is sufficient time to testing and approving of the materials and clearance of the same before use in work.
- (x) All materials brought by the contractor for use in the work shall be got checked from the Engineer-in-Charge or his authorized representative of the work on receipt of the same at site before use.
- (y) The contractor shall be fully responsible for the safe custody of the materials issued to him even if the materials are in double lock and key system.

9.4 Natural calamity

No payment will be made to the contractor for any damage caused by rain, snow fall, floods, dampness, fire, sun or any other natural cause whatsoever during the execution of work. The damage to the work due to above reason, if any, shall have to be made good by the contractor at his own cost and no claim on this account shall be entertained.

9.5 Stocking and Disposal of Materials & Debris

- (a) The contractor shall take instructions from the Engineer-in-Charge regarding collection and stacking of materials at any place. No excavated earth or building rubbish shall be stacked on areas where other buildings, roads, compound wall, services etc. are to be constructed.
- (b) After completion of work the agency shall remove materials and debris etc. from site as per the direction of Engineer-in-Charge, at no extra cost.
- (c) Contractor's job will also include removing of all malba and debris arising in the process of painting including washing of floor to remove stains of paint, at no extra cost.
- (d) The contractor shall conduct work so as not to interfere with or hinder the progress or completion of the work being performed by other contractor(s) or by the Engineer-in-Charge and shall as far as possible arrange his work and shall place and dispose of the materials being used or removed so as not to interfere with the operations of other contractor or he shall arrange his work with that of the others in an acceptable and coordinated manner and shall perform it in proper sequence to the complete satisfaction of others.
- (e) For construction/renovation works which are likely to generate malba/rubbish to the tune of more than a tempo/truck load, contractor shall dispose of malba, rubbish & other unserviceable materials and wastes at their own cost to the notified/specified dumping ground and under no circumstances these shall be stacked/dumped, even temporarily outside the construction premises.

- (f) Dismantled but useful materials/components/equipment, if any, should be returned to the Institute as per the direction of Engineer-in-Charge.

9.6 Painting, if any

- (a) Contractor will thoroughly clean all paint marks left here and there due to spilling and splashes of paint at no extra cost.
- (b) Contractor will first submit the shade cards of relevant make of paint to IIT for approval of color before procuring the paint in bulk.
- (c) No mixing will be allowed with Stainer to achieve a particular color. Contractor will procure direct colour paint of approved shade and apply directly
- (d) Contractor shall have to brought at least 50% quantity of total premium acrylic smooth exterior silicon additives paint and water proofing cement paint and shall deposit it in the custody of concerned site Engineer before start of work. The consumption shall be monitored by the Institute. All empty drums shall have to be kept till completion of work.
- (e) Contractor has to make a sample of exterior painting on the surface of wall and after getting approval from the competent authority. The contractor has to finish the rest of work accordingly as per satisfaction of Engineer-in-charge.

9.7 Safety and Security

- (a) The contractor has to follow all safety norms as laid down in National Building Code of India. All the workers shall be equipped with the required safety gadgets while working at site such as ISI marked helmets, Shoes and safety belts, gumboots, gloves etc.
- (b) The contractor, the authorized representative(s), workmen etc., shall strictly observe orders pertaining to fire precautions prevailing in the area.
- (c) The contractor shall be fully responsible for the safe custody of materials brought by him/ issued to him even though the materials may be under double lock key system.
- (d) Contractor will arrange proper metal ladders, M.S. double scaffolding (for working, painting, etc. at higher levels) at his own cost and will take all safety measures like double harness safety belt, mechanized electrically operated platform etc. If it is observed that work is proceeding without adequate safety precautions, work may be stopped by Engineer-in- charge and in such cases, contractor will be solely responsible for delay and its consequences thereof.
- (e) The contractor shall be responsible for the watch and ward/guard of the buildings, safety of all fittings and fixtures including sanitary and water supply fittings and fixtures provided by him against pilferage and breakage during the period of installations and thereafter till the building is physically handed over to the department. No extra payment shall be made on this account.
- (f) The contractor shall take all precautions to avoid accidents by exhibiting necessary caution boards day and night speed limit boards red flags, red lights and providing barriers. He shall be responsible for all dangers and incidents caused to existing /

new work due to negligence on his part. No hindrances shall be caused to traffic during the execution of the work.

- (g) It shall be ensured by the contractor that no electric live wire is left exposed or unattended to avoid any accidents in this regard.
- (h) The Institute shall not have any responsibility or liability in case of any accident injury to the personnel to the contractor at work site or to the general public at the work site due to mishandling equipment by the personnel of the contractor or any other similar reason. The responsibilities and liabilities for such accidents and incidents shall be borne by the contractor.

9.8 Approach to Site

- (a) The tenderer shall see the approaches to the site. In case any approach from main road is required at site or existing approach is to be improved and maintained for cartage of materials by the contractor, the same shall be provided, improved and maintained by the contractor at his own cost.
- (b) Contractor shall take all precautionary measures to avoid any damage to adjoining property. All necessary arrangement shall be made at his own cost.

9.9 Water and Flooding

- (a) The contractor shall have to arrange water of desirable quality for the construction purpose for which he may have to install water purifier at site or might have to bring/purchase water from outside as per decision of Engineer-in-charge. Nothing extra shall be paid on this account.
- (b) For works below ground level the contractor shall keep that area free from water. If dewatering or bailing out of water is required the contractor shall do it and nothing extra shall be paid except otherwise provided in the items of schedule of quantities.
- (c) In case of flooding of site on account of rain or any other cause and any consequent damage, whatsoever, no claim financially or otherwise shall be entertained notwithstanding any other provisions elsewhere in the contract agreement. Also, the Contractor shall make good, at his own cost, the damages caused, if any.
- (d) The water charges (for water connection as well as tanker water) shall be borne by the contractor. Also, if the contractor obtains water connection for the drinking purposes from the Institute or any other statutory body, the consequent sewerage charges shall be borne by the contractor.

9.10 Acts and Laws

- (a) The Contractor shall keep himself fully informed of all acts and laws of the Central & State Governments, all orders, decrees of statutory bodies, tribunals having any jurisdiction or authority, which in any manner may affect those engaged or employed and anything related to carrying out the work. All the rules & regulations and bye-laws laid down by Collector / MC etc. and any other statutory bodies shall be adhered to, by the contractor, during the execution of work.
- (b) The Contractor shall also adhere to all traffic restrictions notified by the local authorities.

- (c) All statutory taxes, levies, charges (including water and sewerage charges, charges for temporary service connections and / or any other charges, as applicable) payable to such authorities for carrying out the work, shall be borne by the Contractor.
- (d) The Contractor shall arrange to give all notices as required by any statutory / regulatory authority and shall pay to such authority all the fees that is required to be paid for the execution of work. He shall protect and indemnify the Institute and its officials & employees against any claim and /or liability arising out of violations of any such laws, ordinances, orders, decrees, by himself/herself or by his/her employees or his/her authorized representatives. Nothing extra shall be payable on these accounts.
- (e) The fee payable to statutory authorities for obtaining the various permanent service shall be borne by the Institute.

9.11 Labour and Laws

- (a) The Contractor shall display all permissions, licenses, registration certificates, bar charts, other statements etc. under various labour laws and other regulations applicable to the works, at his site office.
- (b) Huts for labour are not permitted within the premises of the Institute. No extra cost shall be payable even if the contractor provides such accommodation at a place as is acceptable to the local body.

9.12 Nondisclosure Agreement

- (a) The Agency shall take all precautions not to disclose, divulge and/or disseminate to any third party any confidential information, proprietary information on the Institute business or security arrangements (including but not limited to the Assignment instructions, Schedules and other subsequent Arrangements) and/or business of the Institute. The obligation is not limited to any Scope and the Agency shall be held responsible in case of breach of the confidentiality of Institute's information.
- (b) If the Agency receives enquiries from Press/Media/Radio/Television or other bodies/persons, the same shall be referred by the Agency to Institute immediately on receipt of such queries.

9.13 Indemnification:

- (a) The agency shall be directly responsible to indemnify the Institute against all charges, dues, claims, etc. arising out of the disputes relating to the dues and employment of the personnel deployed and further for any claim/compensation against all damages and accidents caused due to negligence on the part of the agents, employees and other personnel of the agency.
- (b) That the contractor shall keep the IITK indemnified against all claims whatsoever in respect of the employees deployed by the contractor. In case any employee of the contractor so deployed enters in dispute of any nature whatsoever, it will be the primarily responsibility of the contractor to contest the same. In case IITK is made party and is supposed to contest the case, IITK will be reimbursed for the actual expenses incurred towards Counsel Fee and other expenses which shall be paid in advance by the Contractor to IITK on demand. Further, the contractor shall ensure

that no financial or Any other liability comes on IITK in this respect of any nature whatsoever and shall keep IITK indemnified in this respect.

9.14 Force Majeure:

If at any time, during the continuance of this contract, the performance in whole or in part by either party of any obligation under this contract is prevented or delayed by reasons of any war, hostility, acts of public enemy, civil commotion, sabotage, fires, floods, explosion, epidemics quarantine restriction, strikes, lockouts or acts of god (hereinafter referred to as events) provided notice of happenings of any such event, is served by party seeking concession to the other as soon as practicable, but within 21 days from the date of occurrence and termination thereof. Provided the Party satisfies Institute adequately of the measures taken by it. Neither party shall, by reason of such event, be entitled to terminate this contract, nor shall either party have any claim for damages against the other in respect of such non-performance or delay in performance. Further, the services under the contract shall be resumed as soon as practicable after such event has come to an end or ceased to exist and the decision of Institute as to whether the services have to resume or not shall be final and conclusive, provided further, that if the performance in whole or in part of any obligation under this contract is prevented or delayed by reason of any such event for a period exceeding 60 days, Institute may at his option, terminate the contract.

9.15 Dispute resolution

- (a) The institute reserves the right to amend rules whenever and wherever considered necessary and appropriate. The same shall be intimated to the agency in due course.
- (b) Any dispute arising out of and in relation to this agreement shall be referred to the arbitration by sole arbitrator to be appointed by Director of the Institute. The arbitration would be conducted and governed by and under the provisions of Arbitration Act, 1996 and its amendments. Any legal dispute will be subject to jurisdiction of Kanpur Courts only and no other court shall have the jurisdiction.
- (c) Any dispute arising out of and in relation to this agreement shall be referred to the arbitration by sole arbitrator to be appointed by Director of the Institute. The arbitration would be conducted and governed by and under the provisions of Arbitration Act, 1996. Any legal dispute will be subject to jurisdiction of Kanpur Courts only and no other court shall have the jurisdiction.

9.16 Arbitration

- (a) Except as otherwise provided anywhere in this Agreement, if any dispute, difference, the question of disagreement or matter, whatsoever, arises between the parties, as to the meaning, operation or effect of the Agreement or out of or relating to the Agreement or breach thereof, the same shall be referred to a Sole Arbitrator, to be appointment by the Director of the Institute at the time of the dispute.
- (b) If the Arbitrator, to whom the matter is originally referred, dies or refuses to act or resigns for any reasons from the position of arbitration, it shall be lawful for the Director of the Institute to appoint another person to act as Arbitrator in the manner aforesaid. Such person shall be entitled to proceed with the reference from the stage

at which it was left by its predecessor, provided both the parties consent to this effect, failing which, the arbitrator shall be entitled to proceed on the matter de- novo.

- (c) It is a term of the Agreement that the party invoking the arbitration shall specify all disputes to be referred to arbitration at the time of invocation of arbitration under the clause.
- (d) It is a term of the contract that the cost of arbitration shall be borne by the parties themselves.
- (e) The place of the arbitration shall be Kanpur Nagar, Uttar Pradesh, India.
- (f) Subject as aforesaid, the provisions of the Arbitration and Conciliation Act, 1996 and any statutory modifications, amendments or re-enactment thereof and rules made thereunder and for the time being in force, shall apply to the arbitration proceeding under this clause.
- (g) Except as otherwise provided anywhere in this Agreement, the Arbitration proceedings shall be conducted in English and the Agreement shall be constructed, interpreted and governed by the law of India, for the time being in force.

9.17 Jurisdiction of Courts

The court(s) at Kanpur Nagar, Uttar Pradesh, shall have the exclusive jurisdiction to try any as all the disputes(s) between the parties arising out this Agreement.

9.18 Special Conditions for the Lift Works

- (a) Specification:

The following BIS and Codes of Practice with upto date amendments will apply to the equipment and the work covered by the scope of this contract.

- i. IS-1860-1980: Code of practice for installation & maintenance of electric Freight & Good Lifts.
- ii. IS-3534-1976: Outline dimensions of electric Lifts.
- iii. IS-4666-1986: Specification for Electric Freight and Good Lifts
- iv. IS-6383-1971: Specification of Electric Service Lifts.
- v. IS-732-1963 : Codes of Practice for electric wiring installations (system voltage not exceeding 650 volts)

In addition the relevant clauses of the Indian Electricity Rules 1956 as amended upto date and the Indian Electricity Act 1910 shall apply. The Contractor must also take into account local and State regulations as in vogue in UP for the design and installation of Lifts.

Wherever appropriate Indian Standards are not available, relevant British and/or IEC Standards shall be applicable. BIS certified equipment shall be used as a part of the Contract.

The work shall be executed on the basis of the following CPWD specifications:
Electrical & Lift Works:

- i. General specifications for Electrical Works Part-1 (Internal) 2013 with up to date corrections.
- ii. General specifications for electrical works (external) 2013 with upto date corrections.
- iii. General specifications for electrical works Part-IV Sub-station- 2013with upto date corrections.
- iv. General specifications of Electrical part-III (Lifts & Escalators) 2003 with up to date corrections.

(b) Drawings:

The Contractor shall within One week after award of the work submit the following drawings in quadruplicate for approval by the Engineer In Charge.

- i. Layout drawings showing general arrangement of elevators
- ii. Schematic wiring diagrams
- iii. Maintenance check charts and lubricating charts

These drawings shall incorporate detailed layouts of machines, motors, controllers, guide rails, counter weights, pulleys etc. Details of cut-outs, pockets, foundations etc. shall also be furnished. The Engineer-In-Charge of the work shall within 3 days of the submission of drawings convey comments/approval on receipt of these drawings. The Contractor shall incorporate any modifications, if found necessary by the Architect and four prints of such modified drawings shall be furnished to the Consultant within 5 days of receipt of comments/approval by the Contractor. No modifications shall be made in drawings after the same have been approved by the Engineer in Charge/Architect without their prior consent. The manufacture shall commence work only after such approval is obtained. The Contractor shall be responsible for cost of all alteration of the works due to discrepancies or omissions in the drawings or other particulars supplied by him, whether such drawings have been approved by the Consultant or not.

(c) Works Inspection and Testing of Equipment:

Prior to dispatch of the lifts, the Institute reserves the right to inspect the same at the manufacturer's works and the contractor shall provide and secure every reasonable access and facility at the manufacturers works for inspection, for witness of all acceptance and routine tests as per relevant Indian/International Standards. Contractor shall give a reasonable notice of about 7 days for the purpose of test, and witness of all major equipment's. The testing charges shall be borne by the bidder. The visiting & lodging expenses shall be borne by the Institute and not to be loaded into the contract except the testing charges. The contractor shall only facilitate the inspection at manufacturing works Pre-commissioning test: All routine tests shall be carried out on the lift. Protective & measuring devices should be checked for calibration. The checklists and pre commissioning tests for different equipment's have to be provided by the lowest tenderer at the time of equipment's specification approval.

(d) Spares:

Contractors shall submit list of recommended spares for 1 year operation listing items with individual prices.

(e) Documentation:

The Contractor shall provide six sets of operation & maintenance manuals with instructions for routine and periodic maintenance.

9.19 Special Condition for Comprehensive & Maintenance

9.19.1 Provision of maintenance service by the contractor

- (a) The contractor shall perform the maintenance services as agreed to in the contract and in these general terms and conditions. In performing the said services, the contractor shall take all reasonable steps to maintain the equipment in proper operating condition. The contractor shall use trained and appropriately supervised personnel to perform the maintenance services shall be conducted during the normal working hours, shall send at regular intervals and as frequently as the company thinks necessary, having regards to the age, the nature and condition of the elevator (but not less than 12 times per annum), a technician to systematically inspect, adjust and lubricant the parts of the elevator to the extent necessary to maintain the elevator in satisfactory working order. If not separately agreed, any work conducted outside the normal working hours is not included in the price and shall be invoiced separately. The contractor will supply all lubricants (made as per standards of the contractor). Necessary for this purpose.
- (b) Upon notification by the costumer of a breakdown or failure in the elevator, the contractor shall send his technical team within 48 hrs.(except beyond their control) to carry out necessary repairs in order to restore the elevator to satisfactory working condition. Else, IIT Kanpur may impose penalty on the contractor on per day basis finalized by the competent authority of the Institute by assessment of loss incurred to the Institute due to delay in the rectification of the defect.
- (c) The contractor will carry out according to its standards customary annual safety test to examine all safety devices the contractor will not be required to make any other tests. The contractor will neither be required to install new attachments' nor to make replacements with parts of a defective design to the elevator whether or not recommended or directed by Insurance companies or by governmental or non governmental authorities.
- (d) In performing the services, the contractor will replace (identical or equivalent item) or rectify at its option any components of the elevator rendered defective due to normal wear and tear and arising out of ordinary and reasonable use of the elevator except for such items and conditions which are excluded hereunder as particular and general exclusions. The parts which are replaced shall become the contractor's property.
- (e) The contractor reserves the right to keep the control cubicle locked.
- (f) The equipment under contract will remain out of commissioning while the maintenance process is being carried out. No one will be allowed to use the equipment during this period.

10 Special Conditions and Specifications (E&M Works)

- (a) In interpreting the specifications, the following order of decreasing importance shall be followed in case of contradictions:
 - i. Schedule of quantities
 - ii. Technical specifications of the NIT
 - iii. Approved Drawing (If any)
 - iv. CPWD General specification Part – I (Internal) 2014, BIS Codes amended up to date, practices
 - v. CPWD General Specifications for Electrical Works–Part-II(External), 2014 amended up to date.
 - vi. Relevant IS or other international code in case IS code is not available.
 - vii. Indian Electricity Act 2003 and Indian Electricity Rules 1956 amended up to date.
 - viii. Local Fire Regulations applicable at the place of installation. Relevant and applicable foreign standards and specifications amended up to date.
 - ix. Any other relevant act or rules and local by-laws.
- (b) All the E&M works shall be carried out as per direction and to the satisfaction of the Engineer-in-charge.
- (c) If the specifications for any item or its component are not available in the CPWD specifications cited above, relevant BIS specification as amended up to date shall be followed, whether or not the specific reference of a particular BIS specification has been made in this specification/ tender document.
- (d) Wherever any reference to any Indian Standard specification occurs in the document relating to this contract the same shall be inclusive of all amendments issued there to or revisions thereof, if any, up to the date of opening of tenders.
- (e) All materials should conform to relevant BIS specifications wherever the same exists in absence of stipulation in this tender document.
- (f) Where manufacturers furnish specific instructions / recommendations relating to the materials used in this job and/or their installation, covering points not specifically mentioned in these documents, these instructions shall be followed in all cases and shall be deemed to be included in the schedule of work whether they have been specifically mentioned or not.
- (g) All chase cuttings in the wall, for recessed conduits & boxes and drilling the holes shall be done with power operated machines only. No chase shall be allowed to be cut manually with the use of hammer & chisel.
- (h) All cuttings in cement plaster and brick shall be made good by using cement mortar 1:3 (1 part cement, 3-part coarse sand) The cut surfaces shall be repaired by an experienced mason only so as to match the repaired plaster with the original. All such repaired surfaces shall be cured for 3 to 4 days to keep the surfaces wet, using

water spray machine (hand/motor operated) and avoid unnecessary flooding of the area.

TECHNICAL SPECIFICATION FOR ELEVATORS

(a) Electric Supply:

The available system of electric supply is 415 volts between phases and 230 volts between neutral & phase and neutral - 3 phase 4 wire AC 50 Hz system suitable for operation at +/-10% of rated supply voltage. In addition for illumination and control power required for elevators and equipment shall be indicated in the tender. Power shall be provided at one point in each Machine Room at a point to be indicated by the Contractor. All subsequent electrical systems shall be the responsibility of the Contractor.

(b) Technical Particulars:

The technical particulars of the Elevators are detailed in the enclosed schedule. The schedule indicates the capacity, travel, speed, number of openings, machine room and hoist way sizes etc. Should any further information required by the Contractor the same can be obtained from the offices of the Consultants.

(c) Driving Mechanism:

i. Elevator Machine:

The Elevator machine shall be suitable for 415 volts 3 phase 50 Hz AC supply with a voltage variation of +/- 10% and shall be placed directly above the hoist way upon the machine room floor slab and steel beam furnished in place by the Contractor.

The machine shall have a high efficiency and low power consumption and shall be designed to withstand the peak currents in lift duties. Anti vibration rubber pads of adequate thickness shall be used below the machine to reduce the noise and vibrations.

The elevator machine shall be worm gearless reduction type and shall consist of a motor, electromechanical brake worm gear, sheave shaft and sheave all completely mounted on a common bed plate. The worm shall be provided with ball bearings to take the end thrust and roller bearings shall be provided for the sheave shaft to ensure alignment and long bearing life. The hard alloy cast iron or steel sheave shall have rope grooves to ensure proper traction and minimum rope wear. Adequate means of lubrication shall be provided for all bearings and worm gear.

Means for manual operation of the lift car shall be made by providing winding wheel suitably marked to indicate the direction of the movement to enable the lift car to be brought to the nearest landing. There shall be a warning display for switching off electrical supply before the manual operations.

ii. Brake

The electromagnetic brake shall be spring applied and electrically released. It shall come into action after the lift has come to a complete halt to hold the car in position. The brake shall operate automatically with the safety devices and

release the brake manually such release requiring the action of manual force to move the lift in short stops.

iii. AC Motor

The AC self lubricating motor shall be suitable for elevator use with high starting torque and low starting current. Thermostats shall be embedded in the stator winding to indicate the temperature rise in the motor. The AC motor shall have class F insulation and suitable for 210 starts per hour with a maximum temperature rise of 50 deg C over the ambient.

(d) Controls

The Elevators control shall be AC variable voltage variable frequency (A.C.V.V.V.F). The system shall control the starting, stopping direction of motion, running of the lift motor and application of the brake and/or safety devices in the event of power failure or any other emergency. It shall be so designed as to ensure a smooth and constant acceleration and retardation under all opening conditions.

The contractor shall be wall/floor mounted, vertical totally enclosed cubicle type with hinged doors on the front and the rear to provide easy access to all components in the controller. The cubicle shall be well ventilated such that the temperature inside never exceeds the safe limits of the components at ambient room conditions in the machine room.

The controller shall operate within the supply voltage variation of plus 10% to minus 20% of the nominal voltage.

- i. Over current
- ii. Under voltage
- iii. Over voltage
- iv. Single phasing
- v. Phase reversal

The controller shall be designed to cut off the power supply, apply the brake and bring the car to a rest in the event of any of the above failures occurring.

The Contractor must state clearly the forms of protection provide for each equipment.

If any devices of the electro mechanical type are used the same shall be equipped with arc chutes to prolong the life of contacts. Contractors must stipulate the type of devices used and the material of the contacts.

Contractors must support such offers with complete details of experience, number of lifts installed and operational in India, collaboration for equipment design and manufacture etc.

(e) Hoist Ropes:

Round standard steel wire ropes as per Indian standards shall be used for Lift suspension. The number and size of the hoist way ropes shall be so selected to ensure proper factor of safety minimum 10 and adequate traction for the elevator. The governor ropes shall also be wire ropes.

The Hoist way landing door shall be provided with an interlock such that:

- i. It shall not be possible for the car to be started or kept in motion until all the landing doors and the car door are locked in the closed position.
- ii. It shall not be possible to open the landing door from the landing unless the Lift car is within the particular landing zone.
- iii. The car doors & Hoist way landing doors open automatically as the car is stopping at a landing. The closing of the car and landing door must occur before the car is set in motion.

(f) Car Platform:

The car platform shall be of framed construction and designed on the basis of rated load.

(g) Car Enclosure

The elevator car enclosure shall be as per parameters enclosed in the schedule of quantities. The ceiling shall have an arrangement for a cabin fan mounted on the roof of the car. Indirect fluorescent lighting shall be provided to evenly illuminate the car. The car enclosure shall be SS304 grade, hairline finish with floor 5mm thick steel chequered plate.

(h) Car Design: Car walls finish stainless steel, front and doors in stainless steel, mirror on rear car panel, Dimpled anti skid vinyl flooring

(i) Car operating Panel: Stylish brushed SS finish car operating panel, visual call confirmation, dot matrix display, car position indicator

(j) Landing doors: fully automatic landing doors in powder coated finish

(k) Car Door:

The car entrance for the elevators shall be automatic power operated SS 304 type.

(l) Hoist way Landing Doors:

For the hoist way doors at each landing, two mild steel painted panels centre opening horizontal sliding doors shall be provided to give a clear opening as indicated in the technical parameters. These shall be duly painted to the shade approved by the institute and suit to the site condition.

(m) Car and Hoist way Operations:

The car and hoist way doors shall be mechanically connected such that both move simultaneously for opening and closing. The hoist way landing door shall be provided with and interlock such that.

It shall not be possible for the car to be started or kept in motion until all the landing doors and the card door are locked in the closed position. It shall not be possible to open the landing door from the landing unless the lift car is within the particular landing zone. The car doors and hoist way landing doors open automatically as the car is stopping at a landing. The closing of the car and landing door must occur before the car is set in motion.

(n) Door Hangers and Tracks:

The car and the landing door shall be provided with two point suspension sheave type hangers complete with tracks sheaves and rollers shall be steel with moulded nylon collar and shall include shielded ball bearings. Tracks shall be of suitable steel section with smooth surface. The landing doors shall be complete with headers, sills, frames etc as reqd.

(o) Cabin Fan:

A noiseless cabin fan shall be include for all elevators.

(p) Emergency Light:

An emergency light unit using sealed maintenance free battery power pack and fluoresent lamp to operate automatically in case of power failure shall be provided in each elevator car.

(q) Alarm Bell:

An emergency alarm bell including wiring shall be provided and connected to plainly marked push button in the car operating panel. The alarm shall be provided in the Ground floor lobby if required, The Owner may at his own cost extend the alarm bell to the security/control room.

The alarm unit shall be solid state siren type operated by 2 nos. 9 volts dry batteries to give a waxing and warning siren when the alarm button in the car is pressed momentarily.

(r) Operation Buttons:

The following operation buttons shall be provided

- i. In Each Lift Car: Stainless steel return panels of suitable thickness shall be provided on each side of the door with the following flush mounted controls on one side:-
 - A. Illuminated type push buttons corresponding to the floors served. Floor nos. on push buttons shall be numbered from 1 to onward.
 - B. Door open button
 - C. Emergency stop button
 - D. Emergency call button connected to a bell for an emergency signal
 - E. Two position key operated switch for 'with attendant' and 'without attendant' operation
 - F. Ventilation fan ON/OFF switch
 - G. Built in intercom of the pick and speak type
 - H. UP/DOWN direction display

(s) At Landing

Illuminated type 'UP' and 'DOWN' push buttons at each intermediate landings and single illuminated type push buttons at terminal floors. The push buttons shall

illuminated when the same is pressed to indicate that the call has been registered. The button shall remain illuminated until the call is answered.

One set of calling buttons shall be provided for a bank of two elevators

4. Indications

(a) In Each Car:

The following indications shall be provided in the cars:

- i. Digital car position indicator provided above door to indicate the landing at which the car is stopped or passing.
- ii. Illuminate "UP" and "DOWN" arrows on the position indicator above door to indicate direction of travel.

(b) At all landings:

Combined hall position indicator and hall lanterns is not part of the offer. This feature is generally a standard part of the equipment for Duplex Lifts i.e. two Lifts in the same control.

(c) Safety Devices:

The following safety devices shall be provided:

(d) Self Leveling:

The Lift shall be provided with a +/- 5mm self leveling accuracy feature of the two way automatic type. The self leveling device should automatically correct for under run, over run and rope stretch.

(e) Terminal & Final Limits:

Terminal limit switches shall be provided to slow down and stop the car automatically at the terminal landings and final limit switches shall be furnished to automatically cut off the power and apply the brake should the car travel beyond the terminal landings.

(f) Terminal Buffers: Suitable spring buffers shall be used from existing Lift.

(g) Interlocking:

Adequate interlocking is to be provided so that the car shall not move if the landing doors are even partially open.

(h) Car Safety and Governor:

The car safety shall be provided to stop the car whenever excessive descending speed is attained. The safety will be operated by a centrifugal governor located at the top of the hoist way and connected to the governor through a continuous steel rope. Suitable means shall be supplied to cut off power from the motor and apply the brake on application of the safety.

(i) Fireman Switch:

Each elevator shall have a fireman switch glass front for access by the fireman. The operation of this switch shall cancel all calls to this Lift and will stop at the next

nearest landing if traveling upwards. The doors will not open at this landing and the Lift will return to the ground floor. In case the elevator is traveling downwards when the fireman's switch is operated it will go straight to the ground floor by passing all calls enroute. The emergency stop button inside the car shall be rendered inoperative.

5. Gearless machine: The gearless machine shall consist of a motor, traction sheave and break-drum or brake disc completely aligned on a single shaft. Gearless machine shall be A.C. gearless with VVVF drive.
6. Hand winding wheel or handle: At times of lift stoppage due to any reasons, it shall be possible to move the lift car to the nearest landing manually. The manual operation shall be by means of winding. Wheel or handle mounted on the end of the motor shaft. The up or down direction of the movement of the car should be clearly marked on the motor or at suitable location. A warning plate written in bold signal red colour advising the maintenance staff to switch off the mains supply before releasing the break and operating the wheel is to be prominently displayed.
7. Inter- communication system: Recommends for provision of either an emergency or a telephone inside the car but as a general experience it is seen that over a period of time these devices become inoperative due to one reasons or the other. Therefore, in order to have at least one device of communication functioning at all the times, as an alternative arrangement, provision of both i.e. telephone with minimum tow connections-one at the operator's room and other at guard room and the emergency signal with re-chargeable batteries as source of supply shall be made in the lift cars.

The device used for emergency signals should incorporate a feature that gives immediate feed-back to the car passengers that the device has worked properly and the signal has been passed on to the intended agency. This shall be achieved by pressing of button from control room which shall give audio signal to the passengers in the car.

8. Emergency Power Supply for lift car: This shall include suitable secondary battery with trickle/boost charge arrangement and inverter power pack with necessary contactors for supplying the light fixtures in the lift car. The same battery shall also feed the alarm bell and communication equipment.
9. Car landings: All the lift car landing shall be well lit to an illumination level of 150 lux and shall be free from obstructions. The control for landing lights and the sigh lights shall be tamper proof. Wherever stand by power supply is available, these lights shall be connected to standby circuits also.
10. Instructions: Detailed instructions as specified for guidance of passengers shall be prominently displayed inside the car by contractor and outside the car at all landings by the department. The Braille signage will be posted by the department outside lift lobby at all landings for the lift meant for barrier free requirements as per specifications.
11. Levelling: All lift (s) shall be incorporated with suitable floor leveling devices. In case of lifts with automatic power operated doors and with A.C. VVVF controller a separate level device for automatic leveling with leveling accuracy of +/- 5mm shall be incorporated.
12. Counter Weight Guards: Guards of wire metal/ mesh shall be provided in the lift pit to a suitable height above the pit floor to eliminate the possibility of injuries to the maintenance personnel.

13. Guide shoes: Two numbers of guide shoes at the top and two numbers at the bottom shall be provided on the lift car and counter-weight.
14. Type of shoes: For passenger lifts and bed-cum-passenger lifts:
 - (a) For speed upto 1.5 mps sliding guide shoes shall be used. Sliding guide shoes For car shall be always flexible and for counterweight solid guide shoes can be Used upto 1.0 mps.
 - (b) For speeds more than 1.5 mps roller guide shoes shall be used for car and Counter weight.
15. Rope fastenings: The ends of lift ropes shall be properly secured to the car and counter weight hitch plates as the case may be with adjustable rope shackles having individual tapers babbit sockets, or any other suitable arrangement. Each lift rope shackle shall be fitted with a suitable shackle spring, seat washer, shackle nut & shackle nut split pin.
16. Guards for lift ropes: Where lift ropes run round a sheave or sheaves on the car and/ or counterweight of gearless machine suitable guards shall be provided to prevent injury to maintenance personnel.
17. Number & size of ropes: The contractor must indicate the number and size of lift ropes and governor ropes proposed to be used, their origin, type, ultimate strength and factor of safety. The contractor should furnish certificate of ropes from the rope from the rope manufacturers issued by competent authority.
18. Safety Equipments: Every lift installation shall necessarily be provided with the following safety features:

The safety gear shall be provided in accordance with IS (part-4-Sec.4):2001, each type of car safety shall be actuated by a speed governor.
19. Governor: The car safety shall be operated by speed governor located overhead and driven by governor rope suitable connected to the car and mounted on its own pulleys. The rope shall be maintained in tension by means of weighted or spring loaded tension sheaves located in the pit. 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 phosforbronze. These shall be in accordance with IS 14665 (part 4/sec-4):2001. Governor for car safety gears shall be adjusted to actuate the safety gear at the following speeds: -
 - (a) For rated speeds upto 1m/s maximum governor tripping speed shall be either 140 percent of rated speed or 0.88 m/s, whichever is higher. For rated speed above 1m/s maximum governor tripping speed shall be 115 per cent of the rated speed plus 0.25 m/s.
 - (b) Minimum governor tripping speed shall be 115 per cent of the rated speed.

The governor shall be of "V" groove wheel design and only wheel is stopped to actuate the car safety upon a pre-determined over speed downward without damaging the rope.

The governor, rope and sheave shall be so located so as to minimize danger of accidental injury to the equipment.

The governor sheave and tension sheave shall be according to clause 2.4 and the sheave bearing shall be according to clause 2.7 of this chapter.

The requirements for field tests on car safety and governor and for drop tests to sliding type can safeties shall be as specified in section IV of this specifications.

20. Buffers - Buffers shall be oil resistant rubber pad type for speeds upto 0.25 mps and spring/oil type for speeds upto 1.5 mps and only oil type for speeds higher than 1.5 mps.

Buffers shall be suitable for installation in the space available. Buffers 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 of gravity type. The partial compression of spring return oil buffers when the car is in level with terminal landing will not be acceptable. All buffers shall be tested at manufacturer's works and a copy of the test report shall be submitted. When the lift car rests on fully compressed buffers there shall be at least 60 cms clearance between the lowest point in its car frame and any obstruction in the pit exclusive of buffers and their supports. Similarly when the lift cars cross head is 60cm from the nearest obstruction above it, no projection on the car shall strike any part of overhead structure. The contractor must indicate the name of buffer manufacturers, buffer stroke & certified maximum loads.

21. Door Locks: Electro-mechanical door lock shall be provided for all the landing doors and they shall be such that the doors cannot open unless the car is at rest at the particular landing. It shall not be possible to move the car unless all the landing doors and the car door are closed and locked. This requirement however does not apply when the lift car is provided with automatic leveling devices and in such cases, it shall be permitted to move the car with both the doors open in the leveling zone for the purpose of leveling.
22. Automatic- cum-attendant operation: Single automatic Push Button with/ without attendant - The operating devices for this operation shall incorporate in the car control panel, car buttons corresponding to the various landings served and single landing button at each landing, all electrically connected to controller governing floor selection, direction of travel, acceleration, retardation etc. This system shall be so arranged that when the car is not in use, on pressing a landing call button the car shall start automatically provided all the doors are closed. During the movement of the car and also when car tops at floor landing, other landing call buttons are in-operative for a predetermined time. The pressing of a car button shall automatically start the car and sent it to the desired landing. In all the cases, the starting of the car is contingent on the establishment of landing door and car inter-lock circuits. To indicate the availability, or 'in use' light shall be place in the landing call button panel. When light shall be 'OFF' the passenger shall be able to call the car. In case of manual operated door if the lift is standing at any landing with doors open (when not in use), the pressing of the landing call button shall ring a bell, fitted at the top of car to attract the attention of the people soliciting their help for closing the lift door if any one of the them happens to be near the lift incase of power operated doors, the landing and car doors shall be arranged to open automatically when the car is parked at landing after all the calls are served and the lift is parked at any landing. The doors can remain open or alternatively if desired, the car shall be arranged to close after a pre-determined time unless closing is prevented or interpreted by the car doors re-opening device or the door open button. The lift shall be suitable for dual operation with or without attendant by the provision of key operated transfer switch indicating 'attendant' and 'automatic' positions. During 'attendant' operations the landing call shall be disconnected from the control system and shall be connected to an annunciator in the lift car. The attendant shall then operate the car to answer the registered calls. This operation is recommended for single speed control lift for low rising building having a single lift installation.

23. Simplex Selective-Collective operation with/ without attendant: Automatic operation by means of one button in the car for each landing level served and by up and down buttons at the landings, wherein all stops registered by the momentary actuation of the car made defined under non-selective Automatic Operation but where in the stops registered by the momentary actuation of the landing buttons are made in the order in which the landing are reached in each direction of travel (irrespective of the sequence in which the buttons have been actuated). With this type of operation, all 'up' landing calls are answered when the car is traveling in the up direction and all 'down' landing calls are answered when the car is traveling in the down direction, except in the case of the uppermost or lowermost calls which are answered as soon as they are reached in-respective if the direction of travel of the car.
24. Duplex Collective Selective Operation with/ without attendant: The control system for this operation shall be similar to the one described under simplex selective-collective operation except that in this system there shall be tow lift car adjacent wells. It shall be arranged to co-ordinate both cars for efficient service and prevent them from answering the same calls by the provision of only one set of landing call button fixtures. It shall automatically assign each call to the car that will be in the best position to answer promptly. The system shall be so arranged that when the cars are idle, normally one car will be parked at the lower main landing with its doors closed or open and the other car shall be free car parked with the doors closed or open to the landing where it answered its last call, and shall be the one to attend to the nearest call.

Each car shall always respond to calls registered by its own car call buttons. When either car is parked out of service for any reasons the other car shall function as single car (simplex) selective collective. Besides the control system shall also arranged for independent service from inside the car. A by-pass button (non-stop button) shall also be provided inside the car to enable the attendant to by-pass any landing if the car is full or if otherwise so required. The two lifts shall be arranged with or without attendant operation and shall function as described using single car selective-collective operation. When the transfer switch is in the attendant position the operation of the cars shall be identical with that described for automatic operations except that:

- (a) Closing of doors and starting of cars shall be initiated by the car buttons only.
- (b) Buzzers and directional lights in the car are operative, and
- (c) Landing by-pass shall be effective.

The pressing of an up or down landing call shall illuminate appropriate direction indicator in the car panel, which is to answer that call and if the doors are open shall also sound buzzers as a signal to the attendant. If both cars are parked at the lower landing the above signals shall be given to the car which has been at the floor for longest time.

25. Automatic selection of traffic programme: The group supervisory control continuously examines traffic conditions in the building and automatically puts into operation the programme which can best cope with the demand at any particular time. This is fully automatic and requires no supervision or attendant. To suit the traffic demand in the building, suitable traffic programmes can be selected for inclusion in this control.
26. Controlling Equipment: The movement of the car shall be electrically controlled by means of a controller located in the machine room.

27. Control circuits: The control circuit shall be designed to the type of lift specified for safety operation. It shall not be possible to start the car unless all the car and landing doors are fully closed and landing doors locked. The circuit shall have an independent fuse protection for fault and over loads and be arranged so that earth fault or an open circuit shall not create unsafe condition. The circuit shall be so arranged that for the stoppage of the car at specified landing or for actuation of a contactor by emergency switches or operation of safety gears the system shall not depend upon the completion or maintenance of an electrical circuit to cut off power supply and apply the brakes. This requirement is not applicable to dynamic braking and speed control devices.
28. Terminal Boards: All wiring for external control circuits shall be brought to a terminal board with means of identification of each wire. Metallic/plastic identification tags shall invariably be provided. All connections of wires to terminal boards shall be adequately clamped or screwed.
29. Auxiliary Switches:
- (a) Emergency stop switches: On top of the lift car an emergency stop switch shall be provided for use by maintenance personnel. Stop switch shall be provided in the machine room. Operation of these switches/ buttons shall cancel all the registered calls and landing calls for that particular lift.
 - (b) Maintenance switch on top of the car: For purpose of inspection and maintenance, maintenance switch shall be provided on top of the car. The control circuitry shall be so arranged that in the event of the operation of this switch:
 - i. The car speed shall be less than the rated speed not exceeding 0.85 meters/sec.
 - ii. The car movement shall be possible only on the application of the continuous pressure on a button. It shall be so mounted to prevent any inadvertent operation.
 - (c) Fireman Switch: Fireman switch with glass to break for access shall be provided at ground or main floor for all the lifts. The operation of this switch shall isolate/ or cancel all calls to all the lifts and the lifts will stop at the next nearest landing if traveling upward. The doors will not open at this landing and the lifts will start traveling to ground floor. If these were already traveling down, they will go straight to ground floor direct without stopping enroute.
 - (d) Inspection facility: An inspector's change over switch and set of test buttons shall be provided in the controller. Operation of the inspector's change over switch shall make both the car and landing buttons inoperative and permit the lift to be worked in either direction from machine room for test purposes by pressing corresponding test buttons in the controller. It shall not however interfere with the emergency stop switches inside the car or on the top of the car.
 - (e) Safety line indicators: If specified visual tell tale lights may be provided to monitor the conditions of faults in the safety line of the lift for easier fault finding. These indicators will remain lit when safety circuits are normal. One indicator shall be provided for each safety on the controller. If any indicators fail to light up as the lift proceeds in its sequence of operation, there shall be visual indication of the safety line open circuit and also its location for easier fault finding.
30. Control Wiring: Wiring in machine room: Power wiring between the controller and main board controller to various landings shall be done in heavy gauge conduit or metal duct &

shall conform to I.E. Rules 1956 and CPWD Specifications for electrical works. Following general principles shall be followed in wiring:

- (a) Control cables carrying DC and power cable carrying AC shall not be run in the same conduit or metal duct and they shall be laid as per I.E. rules. Metal duct with removable inspection cover shall be preferred. In case of control cables also the harness shall be separate as far as feasible for separate functions and laid separately in suitably dimensioned metal duct or in a separate conduit such as the signaling, locking, lamp indication and safeties. Control cables for different voltages in the lift installation works should be laid as per I.E. Rules.
 - (b) At least 5 percent with a minimum of 5 unconnected spare wires shall be available out of all the lines to be provided in the wiring harness from the midway junction box to the machine room.
 - (c) There shall be a master isolating switch Fuse associated with the controller heavy duty load break, quick make quick break type TP&N preferably interlocked with controller cabinet door. Isolator handle shall have provision for external locking in off position. All relays shall be suitable for lift service and shall incorporate adequate Contact wipe for reliable operation. Relays shall operate satisfactorily between 80 percent to 110 percent of their voltage. Main motor contactors shall be suitable for A.C. duty. Tenderer shall be required to furnish full details of make, type, applicable standard, voltage and current rating, duty class, type and routine tests done etc., on contactors and relays. Copies of type test certificates and other test certificates shall also be furnished by the successful tenderer. All cables shall be with copper conductors and flame retardant or PVC insulated of appropriate size. The cables feeding motor and in heavy current flow paths shall be so selected that the size matches the protecting fuses and will not result in more than 2 percent voltage drop from the main board to the terminals of motor. Control cables shall not be less than 0.5 sq. mm. or equivalent if stranded; where installation of heavy gauge conduits present difficulties, short lengths of flexible conduits will be permitted but effective electrical continuity and earth bonding shall be ensured. Ferrules shall be slipped at the ends of all cables as per standard control wiring practice. All terminal blocks shall be suitably marked.
31. Trailing Cables: A single trailing cable for lighting control and signal circuit is permitted, if all the conductors of this trailing cable are insulated for maximum voltage running through any one conductor of this cable. The lengths of the cables shall be adequate to prevent any strain due to movement of the car. All cables shall be properly tagged by metallic/plastic tags for identification.

Trailing cables shall run from a junction box on the top of the car to a junction box located in the shaft near mid point of travel and from these junction boxes conductors shall be run to the various locations

Trailing cables exceeding 30 meters in length shall run so that the strain on individual cable conductors will be reduced to a minimum and the cables are free from contact with the car counterweight, shaft walls or other equipment. Trailing cables exceeding 30 meters in length shall have steel supporting fillers and shall be suspended directly by them without rubbing over other supports. Cables less than 30 meters in length shall have no - metallic fillers and shall be suspended by looping cables around supports of porcelain spools type or equivalent. 13 per cent of the total capacity subject to a minimum of 5 wires shall be available unutilized in the trailing cable everywhere suitably distributed between various

functions.

32. Earthing: Metal frames and all metal work of the lift controller frame etc., shall be earthed with double earth leads taken to the earth bar. Looping shall be permitted if such routing is feasible. All other individual metallic frame work of components etc., shall be loop earthed.
33. Lift Rope Compensation: The lift rope compensation for lift travel shall be provided for lift travels beyond 40m in all cases.
34. Automatic Rescue Devices (ARD): The automatic rescue devices (ARD) meant for the purpose of bringing the lift car to the nearest landing doors are being used selectively and is generally restricted to commercial buildings having heavy traffic. However, frequent power failures being the common phenomenon, the provision of ARD shall be made in all the lifts in public buildings. The ARD shall have the following specifications:
 - (a) ARD should move the elevator to the nearest landing in case of power failure during normal operation of elevator.
 - (b) ARD should monitor the normal power supply in the main controller and shall activate rescue operation within 10 seconds of normal power supply failure. It should bring the elevator to the nearest floor at a slower speed than the normal run. While proceeding to the nearest floor the elevator will detect the zone and stop. After the operation is completed by the ARD the elevator is automatically switched over to normal operation as soon as normal power supply resumes.
 - (c) In case the normal supply resumes during ARD in operation the elevator will continue to run in ARD mode until it reaches the nearest landing and the doors are fully opened. If normal power supply resumes when the elevator is at the landing. It will automatically be switched to normal power operation.
 - (d) All the lift safeties shall remain active during the ARD mode of operation.
 - (e) The battery capacity should be adequate so as to operate the ARD at least seven times a day provided the duration between usages are at least 30 minutes.