



**Bharat Sanchar Nigam Limited
(Electrical Wing)**

O/o The Executive Engineer (E)

BSNL Electrical Division-I

No.22, Kellys Road,

Chennai - 600010.

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E-TENDER DOCUMENT

Name of work: SITC of 1No 13 passenger lift at Flower Bazaar LE Building, Chennai

NIT no : 71/EEE/ED1/BSNL/CH/2022-23

This tender document contains: 45 pages (Forty Five) pages only

For E Tender Helpdesk Pls Contact: [https:// etenders.gov.in](https://etenders.gov.in).

Ph: 0120-4200462/4001002/4001005/6277787

Mail Id: support-eproc@nic.in

CHECK LIST FOR THE TENDERER

IMPORTANT NOTE: Before on line submission of tender document, contractor must verify the check list properly.

NAME OF THE VENDOR			
Sl. No	Description	Submitted /Uploaded Yes/No	Detail of document Submitted / Uploaded
1	The Firms who fulfil the following requirements shall be eligible to bid		
	<p>1. The Manufacturer / OEM of lifts, who have successfully commissioned at least 50 goods / passenger lifts with speed not less than 1 m/s in Central Govt / State Govt /PSU across PAN India and having Service Centres in at least 10 cities in the country (India).</p> <p>The OEM shall submit satisfactory performance report of the lifts from the concerned organisation.</p>		
	OR		
	<p>2. Vendors / Dealers authorised by the manufacturer / OEMs (satisfying the conditions in (1) above). In addition, authorisation from the manufacturer / OEM shall be submitted specifically undertaking, that required technical, service & spare support shall be provided for their product for at least 15 years.</p>		
	<p>Additional note:</p> <p>In addition to the above conditions, the bidder shall satisfy the following condition pertaining to preference to “ Make in India” policy.</p> <p>Only Class- I local supplier / Class- II local supplier defined under the Revised Public Procurement (Preference to Make In India) Order 2017, issued vide DPIIT, Ministry of Commerce and Industry order no. P-45021/2/2017-PP(BE-II) dated 16.09.2020 (as amended from time to time) shall be eligible to bid. All rulings w.r.t. local content, Class- I local supplier / Class- II local supplier as well as non local supplier etc shall be as per the cited order. The bidders offering imported products will fall under the category of non local suppliers. The bidders can't claim themselves as Class- I local supplier / Class- II local supplier by claiming the services such as transportation, insurance, installation, commissioning and after sales service support such as AMC/CMC etc as local value addition. Bidders are required to submit declaration as per Form 'E'</p>		
2.	The intending bidder has to fill all the details such as Banker's name, Demand Draft/Fixed Deposit Receipt /Pay Order/ Banker's Cheque /Bank Guarantee number, amount and date		
	<p>a) Cost of Bid Document: Demand draft amounting to Rs. 590/- (inclusive of GST) drawn in favour of “<u>BSNL, CHENNAI TELPHONES</u>” payable at Chennai, (Demand Draft only). The validity of the tender cost in the form of DD shall be 60 days from the date of opening</p>		

	b) EMD -amounting Rs.56,943/- in the form of demand draft/FDR/ BG (As per format at Annexure-I) (BG is only for Air Conditioning, Diesel Engine Alternator, Lifts, and Sub Station works wherever the amount of EMD is more than Rs.20,000)/ CDR of a nationalized/scheduled bank guaranteed by the Reserve Bank of India, drawn in favour of "Accounts Officer(Cash), BSNL Chennai Telephones" The same shall be scanned & uploaded in the e-tendering website within the period of tender submission. The validity of the EMD in the form of DD shall be 60 days from the date of opening. If the EMD is in the form of CDR/FDR/BG, the validity shall be 120 days from the date of opening. In case of L1 bidder, the validity of CDR/FDR/BG is to be extended up to the observation period as that of the Performance guarantee / Security deposit. Exemption from payment of Tender Fee, Earnest Money and Security Deposit by any other unit/ department shall not hold good for BSNL		
3.	Self-attested Copy of PAN card.		
4.	Self-attested Copy of valid GST registration		
5.	Self-attested Copy of CA certificate for turnover (if applicable)		
6.	Self-attested copy of EPF Registration certificate		
7	Self-attested copy of ESI Registration certificate		
8.	The tenderer should give a certificate that none of his/her relative is employed in BSNL units..(In the format as given in Form D)		
9.	Duly filled and signed undertaking regarding EPF and ESI Provisions (In the format as given in Form B)		
11.	Duly filled and signed Undertaking and to abide by EW6 and EW 8 (In the format as given in Form A).		
12.	I have read/Understood all the terms and conditions as mentioned in bid Document and accept the same unconditionally. It is certified that the Tender Document i/c all credentials has been re uploaded with Digital Signature.		
13	Compliance Statement as per page no. 42		
<p>Tender Document should be downloaded and Uploaded again with Digital Signature.</p> <p>For E Tender Helpdesk Pls Contact: https:// etenders.gov.in. Ph: 0120-4200462/4001002/4001005/6277787 Mail id: support-eproc@nic.in</p>			

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**INFORMATION AND INSTRUCTIONS FOR BIDDERS FOR E-TENDERING FORMING PART OF NIT AND
TO BE POSTED ON WEBSITE**

The Executive Engineer (Elect), BSNL, **Electrical Division-I, Chennai** on behalf of the CMD, Bharat Sanchar Nigam Limited, invites online Item rate bids from eligible bidders in **Single bid system** for the following work for the following work:

1	Name of work	SITC of 1No 13 passenger lift at Flower Bazaar LE Building, Chennai
2	Estimated cost put to tender	Rs.28,47,125/-
3	Earnest Money	Rs. 56,943/-
4	Period of completion	3months
5	Tender Fee(Non-refundable)	Rs.500/- (+) GST 18%
6	Last date & time for online and physical submission of tender	Up to 15:00 Hrs. on 13/03/2023
7	Date and time for opening of tender	15:30 Hrs. on 14/03/2023

Eligibility Criteria

1. **The Manufacturer / OEM of lifts, who have successfully commissioned at least 50 goods / passenger lifts with speed not less than 1 m/s in Central Govt / State Govt /PSU across PAN India and having Service Centres in at least 10 cities in the country (India).**

The OEM shall submit satisfactory performance report of the lifts from the concerned organisation.

(OR)

2. **Vendors / Dealers authorised by the manufacturer / OEMs (satisfying the conditions in (1) above). In addition, authorisation from the manufacturer / OEM shall be submitted specifically undertaking, that required technical, service & spare support shall be provided for their product for at least 15 years.**

Additional note:

In addition to the above conditions, the bidder shall satisfy the following condition pertaining to preference to “Make in India” policy.

Only Class- I local supplier / Class- II local supplier defined under the Revised Public Procurement (Preference to Make In India) Order 2017, issued vide DPIIT, Ministry of Commerce and Industry order no. P-45021/2/2017-PP(BE-II) dated 16.09.2020 (as amended from time to time) shall be eligible to bid. All rulings w.r.t. local content, Class- I local supplier / Class- II local supplier as well as non local supplier etc shall be as per the cited order. The bidders offering imported products will fall under the category of non local suppliers. The bidders can't claim themselves as Class- I local supplier / Class- II local supplier by claiming the services such as transportation, insurance, installation, commissioning and after sales service support such as AMC/CMC etc as local value addition. Bidders are required to submit declaration as per Form 'E'

IMPORTANT NOTE:

1. The **self-attested copies of the following documents shall be scanned and uploaded to the e-tendering website** within the period of tender submission. Online bid documents submitted by intending bidders shall be opened only of those bidders, who have scanned and uploaded the following documents (and whose uploaded documents are found to be in order), **otherwise the bid will not be opened and shall lead to disqualification.**

- a. Tender Fee in the prescribed format **[MANDATORY]**
- b. EMD in the prescribed format **[MANDATORY]**
- c. Certificate of Financial Turnover from Chartered Accountant if applicable
- d. Documents fulfilling Eligibility criteria (Please note that in case the bidder is authorised by the manufacturer, the original authorisation letter is to be scanned and uploaded) **[MANDATORY]**
- e. Enlistment certificate issued by BSNL if applicable
- f. Electrical license issued by TN Govt. if applicable
- g. GST Registration Number details
- h. PAN Card
- i. EPF and ESI Registration certificate (if applicable)
- j. Undertaking to abide by EW-6 and EW-8 (Form 'A')
- k. Undertaking regarding EPF and ESI provisions (Form 'B')
- l. Certificate of work experience issued by client department (Form 'C') if applicable
- m. Undertaking regarding No Near relative working certificate (Form 'D')

(Not uploading the MANDATORY documents, (even if the documents are submitted physically shall lead to disqualification.)

2. The Physical Tender Fee, EMD, and if applicable the original authorisation letter by the manufacturer, (the scanned copies of which are uploaded) shall be deposited in the tender box available in the office of tender opening authority, by all the bidders before 3:00 PM on the tender opening date, failing which the tender shall not be opened.

BSNL EW-6
Bharat Sanchar Nigam Limited
Electrical Wing

Electrical Division: ED I, Chennai

Sub Division: ESD VI, Chennai

1. Item rate tenders on single bid system are invited on behalf of CMD, BSNL for the work **“SITC of 1No 13 passenger lift at Flower Bazaar LE Building, Chennai.”** from the eligible bidders as per NIT notification. The enlistment of the bidders should be valid on the opening date of tender. In case the date of opening of tender is extended, the enlistment of bidder should be valid on the original date of opening of tender.
2. Intending bidder is eligible to submit the bid provided that he has definite proof from the appropriate authority, which shall be to the satisfaction of the competent authority as per the eligibility conditions mentioned in the NIT notification page.
3. The work is estimated to cost **Rs.28,47,125/-**
4. Agreement shall be drawn with the successful bidder on prescribed form as amended up to the date of opening of tender. Bidder shall quote his rates as per various terms and conditions of the said form which will form part of the agreement.
5. The time allowed for carrying out the work will be **3 Months from** the 10th day after the date of written order to commence the work.
6. The site for the work is available / or the site for the works shall be made available in parts. The successful bidder shall execute the work in coordination with other agencies working in the campus.
7. The bid documents consisting of plans, specifications, 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 **[https:// etenders.gov.in](https://etenders.gov.in)** at free of cost. The BSNL EW-8 document can be seen from the web site **www.chennai.bsnl.co.in** at free of cost.
8. After submission of the bid, the bidder can re-submit revised bid any number of times but before last time and date of submission of tender as notified. While submitting the revised bid, bidder 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 tender as notified.
9. The Tender Fee in the form of Demand Draft issued by the Nationalized / Scheduled bank authorized by the Reserve Bank of India, drawn in favour of BSNL, CHENNAI TELPHONES payable at CHENNAI shall be scanned & uploaded in the e-tendering website within the period of tender submission. The validity of the tender cost in the form of DD shall be **60 days** from the date of opening.
10. The Earnest money deposit (EMD) in the form of Demand Draft / FDR / BG (BG is only for Air Conditioning, Diesel Engine Alternator, Lifts, and Sub Station works wherever the amount of EMD is more than Rs.20,000)/ CDR of a nationalized / scheduled bank authorized by the Reserve Bank of India, drawn in favour of **BSNL, CHENNAI TELPHONES** payable at **CHENNAI** shall be scanned & uploaded in the e-tendering website within the period of tender submission. The validity of the EMD in the form of DD shall be **60 days** from the date of opening. If the EMD is in the form of CDR/FDR/BG, the validity shall be **180 days** from the date of opening. In case of L1 bidder, the validity of CDR/FDR/BG is to be extended up to the observation period as that of the Performance guarantee / Security deposit. Exemption from payment of Tender Fee, Earnest Money and Security Deposit by any other unit/ department shall not hold good for BSNL.

11. All the documents as specified in the tender document shall be scanned and uploaded to the e-Tendering website within the period of bid submission.
12. The last date for online submission of bid is **13/03/2023** up to 3:00 PM and the bid submitted shall be opened at 03:30 PM on the same day. If a holiday is declared on the tender opening day, the tender will be opened on the next working day.
13. The e-Tender processing fee and tender cost are non-refundable.
14. **Performance Guarantee:** The bidder is required to furnish Performance guarantee for an amount equal to 3% of the contract value in the form of bank guarantee/CDR/FDR/DD (of a Nationalized/ Scheduled Bank in a standard format) within two weeks from the date of issue of acceptance letter. This period can be further extended by the Engineer-in-charge up to a maximum period of two weeks on written request of Bidder. **The validity period of the performance security in the form of performance bank guarantee/CDR/FDR shall be: One year from the date of actual completion of the work. In case the bidder fails to deposit the said performance guarantee within the stipulated period, including the extended period if any, the Earnest Money deposited by the bidder shall be forfeited automatically without any notice to the bidder and the bidder will not be allowed to participate in the re-tendering for the same work.**
15. **Security Deposit:** In addition to Performance guarantee stated above, a sum @ 10% of the gross amount of the bill shall be deducted from each running bill of the contractor till the sum be deducted with the sum already deposited as earnest money, will amount to security deposit of 5% of the contract value of the work. **The security deposit shall be released after an observation period as follows: ~~Three Months from the date of actual completion of work, for AMC works; and~~ One year from the date of actual completion of work for all other works.**
16. In case any discrepancy is noticed in the documents as uploaded at the time of submission of the bid online, then the bid submitted shall become invalid and the BSNL shall, without prejudice to any other right or remedy, be at liberty to forfeit 50% of the said earnest money as aforesaid. Further, the bidder shall not be allowed to participate in the retendering process of the work.
17. Intending bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their tenders, the form and nature of the site, the means of access to the site, 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 tender. A bidder shall be deemed to have full knowledge of the site 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 tender 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 BSNL and local conditions and other factors having a bearing on the execution of the work.
18. The competent authority on behalf of the CMD does not bind himself to accept the lowest or any other tender and reserves to himself the authority to reject any or all the tenders received without the assignment of any reason. All tenders in which any of the prescribed condition is not fulfilled or any condition including that of conditional rebate is put forth by the bidder shall be summarily rejected. The competent authority on behalf of CMD reserves

to himself the right of accepting the whole or any part of the tender and the bidder shall be bound to perform the same at the rate quoted.

19. Canvassing whether directly or indirectly, in connection with tenders is strictly prohibited and the tenders submitted by the bidders who resort to canvassing will be liable to rejection.
20. Agreement shall be drawn with the successful bidder on prescribed form. Bidder shall quote his rates as per various terms and conditions of the said form, which will form part of the agreement.
21. The bidder should give a certificate as per the following that none of his/her relative is employed in BSNL units as per **Form 'D'**. In case of proprietorship firm, certificate will be given by the proprietor and for partnership firm certificate will be given by all the Directors of the company.
 - a. Near relatives of all BSNL employees either directly recruited or on deputation are prohibited from participation in tenders and execution of works in the different units of BSNL. The near relatives for this purpose are defined as:
 - i. Members of a Hindu Undivided family.
 - ii. They are husband and wife.
 - iii. The one is related to the other in the manner as father, mother, son(s) & son's wife(daughter-in-law), Daughter(s) & daughter's husband(son-in-law), brother(s) & brother's wife, sister(s) & sister's husband(brother -in-law).
 - b. The company or firm or any other person is not permitted to tender for works in BSNL unit in which his near relative(s) is(are) posted. The unit is defined as SSA/Circle/Chief Engineer/Chief Archt./Corporate office for non-executive employees and all SSA in a circle including circle office/Chief Eng./Chief Archt./Corporate office for executive employees (including those called as Gazetted officers at present). The bidder should give a certificate that none of his/her such near relative is working in the units as defined above where he is going to apply for tender/work, for proprietorship, partnership firms and limited company certificate shall be given by the authorized signatory of the firm. Any breach of these conditions by the company or firm or any other person, the tender/work will be cancelled and earnest money/performance guarantee will be forfeited at any stage whenever it is so noticed. BSNL will not pay any damages to the company or firm or the concerned person. The company or firm or the person will also be debarred for further participation in the concerned unit.
 - c. No employee in BSNL/ Govt. of India is allowed to work as a contractor for a period of two years of his retirement from service without the prior permission. The contract is liable to be cancelled if either the bidder or any of his employees is found at any time to be such a person who had not obtained the permission as aforesaid before submission of tender and engagement in the bidders service.
22. The tender for the work shall remain open for acceptance for a period of ninety (90) days from the date of opening of tenders. If any bidder withdraws his tender before the said period or issue of letter of acceptance, whichever is earlier, or makes any modifications in the terms and conditions of the tender which are not acceptable to the BSNL, then the BSNL shall, without prejudice to any other right or remedy, be at liberty to forfeit 50% of the said earnest money as aforesaid. Further the tenderer shall not be allowed to participate in the retendering process of the work.

23. The agency has to comply with the provisions of EPF and miscellaneous provisions Act-1952 and employees provident fund scheme-1952 as amended up to date in respect of labours/employees engaged by them for this work. Any consequence arising due to non-complying of provisions as specified above shall be the sole responsibility of the firm only. The agency shall give an undertaking to this effect as per **Form 'B'**.
24. **Extension of Validity of tender:** In case, where the letter of award of work cannot be placed within the validity period of the tender, the BSNL can request the bidder to extend the validity of their respective tenders and the Earnest Money deposit by a reasonable period. In such cases, extension of validity of Earnest Money deposit by 30 days beyond the extended validity date of tender should also be asked for. While BSNL can make the request for extension, the tenderer is free to either extend the validity or refuse the request to extend the validity.
25. Rates quoted by the contractor shall be firm and shall be valid for the currency of contract. No cost escalation shall be permitted during the currency of contract.
26. This notice inviting tender shall form a part of the contract document. The successful bidder, on acceptance of his tender by the Accepting Authority shall within 15 days from the stipulated date of start of the work, sign the contract consisting of:-
 - a. The Notice Inviting Tender, all the documents including additional conditions, specifications and drawings, if any, forming part of the tender as uploaded at the time of invitation of tender, subsequent amendments issued and the rates quoted online at the time of submission of bid and acceptance thereof together with any correspondence leading thereto.
 - b. Standard BSNL EW-8 form

General Instructions to the Bidders

1. The intending bidder must read the terms and conditions of BSNL-EW 6 carefully. He should only submit his bid, if he considers himself eligible and he is in possession of all the documents required.
2. Information and instructions for bidders posted on website shall form part of bid document.
3. Applicants are advised to keep visiting the above mentioned website 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.
4. Those bidders not registered on the website mentioned above, are required to get registered themselves beforehand. The intending bidder must have valid class-III digital signature to submit the bid.
5. Tender Bidding Methodology: - **“Single stage bidding system”**.
6. On opening date, the bidder can login and see the bid opening process. After opening of bids he will receive the competitor bid sheets.
7. Bidder can upload documents in the form of JPG format or / and PDF format.
8. Bidder must ensure to quote rate of each item. The column meant for quoting rate in figures appears in yellow colour. 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)
9. Even though any bidder may satisfy the above requirements, he would be liable to disqualification if he has:
 - a. Made misleading or false representation or deliberately suppressed the information in the forms, statements and enclosures required in the eligibility criteria document.
 - b. Record of poor performance such as abandoning work, not properly completing the contract, or financial failures / weaknesses etc.
10. If any information furnished by the bidder is found incorrect at a later stage, he shall be liable to be debarred from tendering/taking up of works in BSNL. The BSNL reserves the right to verify the particulars furnished by the applicant independently.
11. GST and any other tax applicable in respect of this contract shall be borne by the bidder himself. The bidder shall quote his rates considering all such taxes. The TDS as per the Govt. regulations will be recovered from the contractor.
12. **Tender Evaluation :**
 - (a) The evaluation and comparison of responsive bids shall be done on the basis of **Net cost to BSNL** on the prices offered inclusive of packing, forwarding, freight and insurance charges etc., but excluding GST. The bid with lowest net cost as elaborated above will be the L1 bidder.
 - (b) Vendors should furnish the correct GST Rate in the price schedule. If the Input Tax Credit is found to be not admissible at any stage subsequently owing to wrong furnishing of GST Rate, then the vendors will be liable to refund such non-admissible amount, if already paid, along with penalty if charged by the concerned authority.
13. However, pursuant to the constitution (Forty-sixth amendment) act, 1982, if any further tax or levy is imposed by statute, after the last date of receipt of tenders, and the contractors there

upon necessarily and properly pays such taxes/ levies, the contractor shall be reimbursed the amount so paid, provided such payment, if any, is not in the opinion of Superintending engineer (whose decision shall be final and binding) be attributable to delay in execution of work within the control of contractor.

14. The Contractor shall, within a period of 30 days of imposition of any further tax or levy in pursuant to the constitution of (Forty sixth amendment) act 1982 give a written notice thereof to the Engineer-in-charge that the same is given pursuant to this condition, together with all necessary information relating thereto.

15. Bye laws Indemnity against liabilities:

- a. The bidder shall comply with all bylaws and regulations of the local and statutory authorities having jurisdiction over the works and shall be responsible for payment of all fees and other charges and giving and receiving all necessary notices and keep the Engineer –in-charge informed about the notices issued and received.
- b. The bidder shall indemnify the department against all claims in respect of patent rights design, trademark or name of other protected rights in respect of any plant, machine, work or materials used for or in connection with the works or temporary works and from and against all claims demands, proceedings, costs, charges and expenses whatsoever in respect of or in relation thereto.
- c. The bidder shall defend all actions arising from such claims and shall himself pay all royalties, License fees, damages, costs and charges of all and every sort that may be legally incurred in respect hereof shall be borne by the bidder.
- d. All liabilities / penal recoveries on matters arising out of tax /levies such as incorrect deductions, discrepancies in the filing of returns, revised assessments by the concerned authorities etc., shall be borne by the bidder.

16. Termination of contract on death of contractor :

Without prejudice of any of the rights or remedies under this contract, if the contractor dies, the Engineer in charge on behalf of the BSNL shall have the option of terminating the contract without compensation to the contractor.

17. Indulging of contractor in criminal /antisocial activities and cases under investigation/charge sheeted by CBI or any other government agencies etc. :

If the CBI/Independent External Monitor (IEM) /Income tax/ Sales Tax /GST/ Central Excise/Custom Departments recommend such a course - Action will be taken as per the directions of CBI or concerned department.

18. As a general notion, the terms and conditions/instructions contained in various pages of this document are addressed assuming the bidder as 'Male'. However, the same shall remain and assumed to be addressed in case of 'Female' bidder also, except for the gender centric words, which shall be 'female' centric at appropriate places.

FORM 'A'

Undertaking to abide by EW 6 & EW 8

"I.....Son/Daughter of
.....Resident of hereby
give an undertaking that I have read the complete bid document and I am aware of all the clauses
and sub clauses of BSNL EW 6 & 8 forms and I confirm that I will abide by all the terms and
conditions available in BSNL EW 6 & 8 forms.

(Seal of the firm)

(Signature of Bidder)

FORM 'B'

Undertaking regarding EPF provisions

"I..... Son/daughter of Resident of hereby give an undertaking that

* I/We have employed onlypersons in our establishment and hence the EPF and Miscellaneous provisions Act, 1952 is not applicable to my / our establishment.

* I/ We have registered as per the EPF and Miscellaneous provisions Act, 1952 and our registration no.** isWe undertake to keep it valid during the currency of contract.

In case at any stage, it is found that the information given by me is false / incorrect, BSNL shall have the absolute right to take any action as deemed fit/without any prior intimation to me".

* strike out whichever is not applicable

**Attach a self-attested photo copy of the above said EPF registration certificate.

(Seal of the firm)

(Signature of Bidder)

Undertaking regarding ESI provisions

"I.....Son/daughter of Resident of hereby give an undertaking that

* I/We have employed onlypersons in our establishment and hence the ESI and Miscellaneous provisions Act,1948 is not applicable to my / our establishment.

* I/ We have registered as per the ESI and Miscellaneous provisions Act, 1948 and our registration no. ** is We undertake to keep it valid during the currency of contract.

In case at any stage, it is found that the information given by me is false / incorrect, BSNL shall have the absolute right to take any action as deemed fit/without any prior intimation to me".

* strike out whichever is not applicable.

**Attach a self-attested photo copy of the above said ESI registration certificate.

(Seal of the firm)

(Signature of Bidder)

FORM 'C'

Performance report of works

1. Name of Agency
2. Name of work
3. Agreement no.
4. Final Value of Work Done
5. Date of start of work
6. Actual date of completion
7. Performance: Satisfactory / Not Satisfactory

Not Applicable

Dated:

Executive Engineer or Equivalent

FORM 'D'

No Near relative working certificate

I..... Son/daughter of Shri / Smt Resident of.....hereby certify that none of my relative(s) as defined in the tender document is / are employed in BSNL unit as per details given in tender document. In case at any stage, it is found that the information given by me is false/incorrect, BSNL shall have the absolute right to take any action as deemed fit/without any prior intimation to me.

(Seal of the firm)

(Signature of Bidder)

FORM 'E'

Format for Self Certification under Preference to "MAKE IN INDIA"

(Preferably to be printed in letter head)

In line with, the Government Public Procurement Order No. P-45021/2/2017-PP (BE-II) dated 04.06.2020 and its amendments, we hereby certify that we M/s

.....are local supplier meeting the requirement of minimum local content i.e.,.....% as defined in above orders for the material against NIT No.....dated.....

Details of location at which local value addition will be made is as follows:

.....

We also understand, false declarations will be in breach of the code of integrity under rule 175(1)(i)(h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151(iii) of the General Financial Rules along with such other actions as may be permissible under law.

Thanking You

Signature with date:

Name:

Designation:

Official Seal

Dated: ____ 2023.

Annexure I
MODEL FORM OF BANK GUARANTEE FOR EMD
(For submitting EMD for Air Conditioning, Diesel Engine Alternator, Lifts, and Sub Station
Works wherever the amount of EMD is more than Rs.20,000/-)

Whereas _____ (hereinafter called "the bidder(s)") has submitted its Tender dated _____ for the work _____

_____ KNOW ALL MEN
by these presents that WE _____ OF
_____ having our registered office at _____
(hereinafter called "the Bank") are bound unto _____ (hereinafter called
"the BSNL") in the sum of _____ for which payment will and truly to be made of
the said BSNL, the Bank binds itself, its successors and assigns by these presents.

THE CONDITIONS of the obligation are:

1. If the Bidder(s) withdraws its Tender during the period of Tender validity specified on the Tender Form : or
2. If the Bidder(s) having been notified of the acceptance of its Tender by the BSNL during the period of Tender validity.
 - (a) Fails or refuses to execute the Contract.
 - (b) Fails or refuses to furnish security Deposit in accordance with the conditions of Tender document.

We undertake to pay to the BSNL up to the above amount upon receipt of its first written demand, without the BSNL having to substantiate its demand, provided that in its demand, the BSNL will note that the amount claimed by it is due to it owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force as specified in the Tender Document up to and including Thirty (30) days after the period of the Tender validity and any demand in respect thereof should reach the Bank not later than the specified date/dates.

Signature of the Bank

Signature of the Witness
Name of Witness

Address of Witness:

ANNEXURE II

PERFORMANCE SECURITY GUARANTEE BOND

1. In consideration of the CMD, BSNL (hereinafter called 'BSNL') having agreed to exempt _____ (hereinafter called 'the said bidder(s)') from the demand under the terms and conditions of an agreement/Advance Purchase Order No _____ dated _____ made between _____ and _____ for the supply of _____ (hereinafter called "the said agreement "), of security deposit for the due fulfilment by the said bidder (s) of the terms and conditions contained in the said Agreement, on production of the bank guarantee for _____ we, (name of the bank) _____ (hereinafter refer to as "the bank") at the request of _____ (bidder(s)) do hereby undertake to pay to the BSNL an amount not exceeding _____ against any loss or damage caused to or suffered or would be caused to or suffered by BSNL by reason of any breach by the said Bidder(s) of any of the terms or conditions contained in the said Agreement.
2. We (name of the bank) _____ do hereby undertake to pay the amounts due and payable under this guarantee without any demur, merely on a demand from the BSNL by reason of breach by the said bidder(s)' of any of the terms or conditions contained in the said Agreement or by reason of the bidders(s)' failure to perform the said Agreement. Any such demand made on the bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee where the decision of BSNL in these counts shall be final and binding on the bank. However, our liability under this guarantee shall be restricted to an amount not exceeding _____.
3. We undertake to pay to the BSNL any money so demanded notwithstanding any dispute or disputes raised by the bidder(s)/supplier(s) in any suit or proceeding pending before any court or tribunal relating thereto our liability under this present being absolute and unequivocal. The payment so made by us under this bond shall be valid discharge of our liability for payment there under and the bidder(s)/supplier(s) shall have no claim against us for making such payment.
4. We(name of the bank)_____ further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said agreement and that it shall continue to be enforceable till all the dues of the BSNL under or by virtue of the said Agreement have been fully paid and its claims satisfied or discharged or till _____ (office/BSNL) BSNL certifies that the terms and conditions of the said Agreement have been fully or properly carried out by the said bidder(s) and accordingly discharges this guarantee. Unless a demand or claim under this guarantee is made on us in writing on or before the expiry of TWO/TWO AND HALF/THREE YEARS (as specified in P.O) from the date hereof, we shall be discharged from all liabilities under this guarantee thereafter.
5. We (name of the bank)_____ further agree with the BSNL that the BSNL shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Agreement or to extend time of performance by the said bidder(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the BSNL against the said Bidder(s) and to forbear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Bidder(s) or for any forbearance, act or omission on the part of the BSNL or any indulgence by the BSNL to the said Bidder(s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.
6. This guarantee will not be discharged due to the change in the constitution of the Bank or the Bidder(s)/supplier(s).
7. We (name of the bank) _____ lastly undertake not to revoke this guarantee during its currency except with the previous consent of the BSNL in writing.

Dated the _____ day of _____

for _____ (indicate the name of bank)

IMPORTANT INSTRUCTIONS TO THE TENDERERS

The tenderers are required to read the following carefully before quoting the rates and submission of the tenders. In case of any doubt in the downloaded tender, the same shall be got clarified from the Engineer in charge calling the NIT before submission of tender. Please note that the offers, which do not comply with the following, will not be considered and will be totally rejected. These instructions supersede the BSNL/EW 8 clauses in case of any Disparity.

1. INCREASE /DECREASE OF TENDERED QUANTITY

- a) BSNL will have the right to increase or decrease up to 25% of the Contract value depending upon the requirement of goods and services specified in the schedule of items without any change in the unit price or other terms and conditions at the time of award of contract.
- b) In exceptional situation where the requirement is of an emergent nature and it is necessary to ensure continued supplies from the existing vendors, the purchaser reserves the right to place repeat orders up to 50% of the quantity of goods and services contained in the running tender/contract within a period of **THREE months** from date of award of work at the same rate or a rate negotiated (downwardly) with the existing vendors considering the reasonability of rates based on prevailing market conditions and the impact of reduction in duties and taxes etc.

2. CURTAILMENT OF:QUANTITY

BSNL reserves the right to enforce curtailment in the assigned quantum of work for any contractor on the grounds of defaults/delay in regard to execution of the individual work assigned.

3. COMPLETION OF WORK:

The time period will be reckoned from the 10th day after the date on which the order to commence the work issued to the contractor. The normal time of completion shall be **THREE months**

4. EXTENSION OF TIME:

If the contractor shall desire an extension of time for completion of work on the grounds of his having been unavoidably hindered in its execution or on any other grounds, he shall apply in writing to the Engineer in charge within 30 days of the hindrance on the account on which he desires such extension as aforesaid, and the Engineer in charge shall if in his opinion reasonable grounds to be shown therefore, authorize such provisional extension of time, if any as in his opinion be necessary are proper.

5. COMPENSATION FOR DELAY :

If the contractor fails to maintain the required progress or complete the work and clear the site on or before the contract or extended date of completion, he has to pay the compensation for delay which is limited to 0.5% per week of the tendered value for the first 10 weeks and 0.7% per week for next 10 weeks and thereafter subject to a maximum of 12% of the tendered value for the location where the work is delayed and the firm is found responsible for the same. The clause 2 of BSNL - 8 forms stands modified accordingly. Flow chart of the Procurement process/ contract shall be supplied by the contractor and approved by Executive Engineer concerned.

6. TERMS OF PAYMENT:

- a) 70% of the price shall be paid on the receipt of goods at site by the consignee. For claiming this payment the following documents are to be submitted to the paying authority:
 - i) GST invoice.
 - ii) Delivery Challan/E-Way bill.
 - iii) Consignee receipt.
- b) 20% on Installation & Trial Testing.
- c) 10% on successful completion of Final Acceptance testing, and Successful Inspection by Lift Inspector and issue of Lift Licence
- d) In cases where shortages/ damages are intimated to the supplier in writing, the balance payment shall be released only after the cases are settled in accordance with the provision of the P.O.
- e) No payment will be made for goods rejected at the site on testing. Payment, if made, for such items shall be recovered from subsequent bills or other bills.

7. EPF PROVISIONS:-

The agency has to comply with the provisions of EPF and miscellaneous provisions Act- 1952 and employees provident fund scheme-1952 as amended up to date in respect of labours /employees engaged by them for this work. Any consequence arising due to non- complying of provisions as specified above shall be the sole responsibility of the firm only. Agency has to observe all the labour rules & regulations in force. Agency shall be fully responsible for any violation observed at any time.

8. PROGRAMME FOR EXECUTION

The firm shall supply a detailed programme to Engineer-in-Charge for execution of contract within fifteen days of award of work. The programme shall contain details about submission of drawing, supply of materials, tentative dates for installation and commissioning.

9. STORES AND SAFETY

All the stores and materials required for the satisfactory completion of the work shall be arranged at work site by the contractor from his own source. Space for storing the same materials may be provided on request from the contractor. **However safe custody of the material stores at site will be responsibility of the contractor.**

10. CO-ORDINATION AT SITE

At the site of work more than one agency may be working. Full cooperation shall be extended to other agencies during the progress of work. Further work shall be carried out in such a way so that it may not cause abnormal noise and hindrance to the officers of the BSNL engaged in erection as well as to normal routine work.

11. CHANGES IN SPECIFICATIONS

The BSNL reserves the right to make changes in respect of specifications of work if in its opinion same is found necessary. However such alterations shall be made after mutual discussions and agreement between the BSNL and the contractor. Any price implications in this regard shall be mutually discussed and agreed up on in terms of clause 12 of EW forms. The BSNL as matter of principle will not permit modifications by the contractor in design / specifications of any document /material. However the same can be agreed upon by the BSNL under exceptional circumstances where

- a) The same is necessitated due to non-availability of material/components of certain specifications/make.

Or

- b) Such alterations constitute an improvement in the opinion of BSNL.

Prior approval is necessary before undertaking any alteration/modification in the specifications of the equipment.

12. I.S. Standards:

The entire system shall conform to relevant BIS including safety standards as amended up to date. Where IS standards are not available the British standard(s) shall be followed. In case of conflict, the requirements of these specifications shall be given over-riding priority. The electrical and earthing work shall be carried out as per CPWD specifications for electrical works (internal) and electrical works (external) as amended up to date. A list of relevant standards, approved makes of equipment is furnished and forms part of the tender document.

13. Preference to Make In India products (For bids < 200 Crores):

Preference shall be given to Class 1 local supplier as defined in public procurement (Preference to Make in India), Order 2017 as amended from time to time and its subsequent Orders/Notifications issued by concerned Nodal Ministry for specific Goods/Products. The minimum local content to qualify as a Class 1 local supplier is 50% and as a Class II local supplier, it is 20%. If the bidder wants to avail the Purchase preference, the bidder must upload a certificate from the OEM regarding the percentage of the local content and the details of locations at which the local value addition is made along with their bid, failing which no purchase preference shall be granted. In case the bid value is more than Rs 10 Crore, the declaration relating to percentage of local content shall be certified by the statutory auditor or cost auditor, if the OEM is a company and by a practicing cost accountant or a chartered accountant for OEMs other than companies as per the Public Procurement (preference to Make-in -India) order 2017 dated 04.06.2020. Only Class-I and Class-II Local suppliers as per MII order dated 16.9.2020 will be eligible to bid. Non - Local suppliers as per MII order dated 16.9.2020 are not eligible to participate.

Schedule of Quantities

Name of work: SITC of 1No 13 passenger lift at Flower Bazaar LE Building, Chennai										
Sl. no	Description of Items	Qty	Unit	Rate	Total Amount excl. GST	CGST		SGST		Total Amount including GST
						% Rate	Rate per unit	% Rate	Rate per unit	
1	2	3	4	5	6 = 3x5	7	8 = 6x7	9	10 = 6x9	11 = (6+8+10)
	PART A (Supply of 13 passenger lift)									
1	Supplying, Installation, Testing, Commissioning (SITC) of 13 Passenger capacity (884Kg) Passenger lift (Gearless) for G+6 floors having a contract speed of 1.5 m/sec suitable to work on 3phase, 400/440 volts AC supply comprising of equipments including Microprocessor based V3F drive, car, Controller, counter weight, self leveling devices, control devices, car position indicators, battery operated alarm bell /emergency light, stainless steel finished car interior, doors, self leveling devices, control devices, terminal buffers, pit ladder, ropes, safety devices, car & landing push buttons, Floor announcer including infra red curtain, Automatic Emergency Rescue Device, all wiring connections, interconnections fireman's switch and miscellaneous items like supports for guide rails etc i/c minor building works, making good the same, conducting tests, offering lift for inspection by Lift inspector, liasoning with the inspector office etc complete as per detailed specifications enclosed as under:-									

Unpriced Schedule

	Location of Lifts: Flower Bazaar LE Bldg, Chennai (i) Speed : 1.50 Meter Per Second (ii) Floors: Ground +6 Floors (iii) Travel :29.41Metres (Approx) (iv) Stops & Opening: 7Nos (All on same side) (v) Controller : Microprocessor based AC Variable Voltage & Variable Frequency (vi) Automatic rescue device complete with dry maintenance free batteries as reqd (vii) Operation:- Microprocessor based Duplex Selective collective control with/without attendant (viii) Power :415V,3Phase,50 HZ,4 Wires system (ix) Type of Doors: Car/Landing : Power door centre opening Stainless Steel in hairline finish (x) A hand rail not less than 600 mm long at 900 mm above floor level to be fixed adjacent to the control panel in lift car. (xi) Voice announcement system in the car to announce the position of the elevator in the hoist way as the car passes or stops at a floor served by the elevator.	1 Job	job							
	Total For PART A									
	Part B : Buy back of existing old lift									
1	LESS amount towards buyback of existing 1No. life expired M/s Kone Lifts make passenger lift at LE building, FBR TE, Chennai (in as is where condition) including dismantling all the lift equipments like car, counter weight, self levelling devices, control devices, doors, terminal buffers, ropes, safety devices, sensors with all wiring connections, interconnections and miscellaneous items like supports for guide rails, removing / cleaning debris left out in lift shaft / lift room, making good damages etc as required. Base buyback Value - Rs.95875/- i/c GST per Unit. The Agency may quote Higher base value but not lower than Base value. if quoted rate is below base value then base value of Rs. 95875/- i/c GST per Unit is taken as final quoted buyback rate instead of quoted rate	1 job								
			job							

		Total for Part B		
		Total for (Part A - Part B)		
		Total Amount excl. GST		Total Amount incl. GST

IMPORTANT NOTES:-

1	The firm shall be responsible to ensure that GST shown in the above columns is correct & Input Tax Credit for the amount shown above is admissible as per GST Act as amended up to date.
2	Tax Invoice / Bill of supply should be pre-printed with all the details as per the requirement under GST Act.
3	The evaluation and comparison of responsive bids shall be done on the basis of Net cost to BSNL on the prices offered inclusive of packing, forwarding, freight and insurance charges etc., but excluding GST.
4	The rates for all items of work shall, unless clearly specified otherwise, include cost of all labour, materials and other inputs involved in the execution of the terms as specified in the scope of work.
5	No advance payments can be made. Stipulations like levy of interest if payment is not made in a specified time are also not acceptable and the payment is governed by the normal BSNL practice.
7	Normally Lifts are under guarantee for a period of one year after the date of commissioning. But even during the guarantee period the contractor shall be fully responsible for maintaining the services and to take whatever steps as maybe necessary including preventive and breakdown maintenance steps and servicing etc., as per the recommendations of the manufacturer. BSNL shall not pay anything extra on this account.
9	Bidder must mandatorily quote for all GST components (CGST, SGST, IGST) as applicable.
10	Bidder must mandatorily mention correct HSN / SAC codes.
11	If any levy / duty is not payable or documentary proof is not produced, the amount for the same shall be deducted.
12	Lift procurement is only on Buyback arrangement
13	For Part B, BSNL will issue invoice and the vendor can avail Input Tax Credit as per GST Act
14	Bidder must quote the rate excluding GST, GST percentage (IGST ,CGST , SGST as applicable). For item no.1 of Part B, Reserve scrap value is fixed, but the bidder must quote the GST percentage.
15	All minor civil works other than the MAJOR CIVIL WORKS as described in sl no 23 of SPECIFICATION FOR 13 PASSENGER LIFT against "scope of bsnl" shall be the responsibility of the lift installing firm.

SPECIFICATION FOR 13 PASSENGER LIFT

1	Type / Service	Passenger Lift	
2	No of lifts required	1 No	
3	Load	13 passenger (884 Kg)	
4	Speed	1.5 m/s	
5	Travel	(G+6 Floors) (Approximately 29.5m)	
6	Stops and Openings	7 Nos. stops and 7Nos of openings all on the same side	
7	Method of control	Digitalised microprocessor based programmable Variable Voltage, Variable Frequency	
8	Operation	Duplex, Selective, collective automatic operation as per latest IS specifications with or without attendant.	
9	Internal size of the car platform.	1350 mm x 1600 mm x2200mm	
	Car	a) Entrance	1 no.
		b) Door Size	900 mm (W) x 2000 mm (H)
		c) Type of Door	i) Car : Power operated centre opening horizontal sliding stainless steel scratch proof (Stainless steel Hairline) ii) Landing door : Power operated centre opening horizontal sliding stainless steel scratch proof (Stainless steel Hairline)
10	a) Call indicator	In the car operating panel	
	b) Position indicator in car	above the car door	
11	Luminous car operating panel	Full Height Stainless Steel Face Plate Silver brushed SS Segmented LCD display Square surface mounted Buttons with Braille car operating panel inside the car shall consist of the following. a) Key operated switch marked to indicate 'attendant' - 'automatic' operation. b) Push button for each floor served with provision of space for the future floors. c) Emergency alarm push button (battery operated). d) 'Up', 'Down' direction digital indicator. e) 'Up', 'Down' direction / button / car start button. f) Buzzer. g) Non-stop button.	
12	Landing entrances: car open through	Front only.	
13	Machine room machinery	The machine shall be gearless type designed for heavy duty and suitable for lift operation. Sound reducing materials preferably rubber pads shall be provided under elevator machine.	
14	Battery charger, emergency light alarm bell.	a) One separate and exclusive set of Maintenance – free battery with trickle / boost battery charger with necessary invertors / power pack at machine room shall be provided for emergency light in Car and Emergency alarm bell in ground floor. b) The Emergency light, alarm bell operation shall be automatic when the main Power supply fails.	
15	Control and indicators at landings.	Stainless Steel 7 segment display Flush Mounted Silver brushed SS Square, surface mounted with Braille, Two push buttons for intermediate landings and single push button for terminal landing with call direction indicators, car position indicator above the entrance with indication for the direction of motion (extra space for future floors) (all indications may be digital)	
16	Emergency Communication System	a) Provision for emergency communication system to be recessed in the car operating panel along with Microphone & Speaker. (Hands free, Press & Speak type, with high intensity LED Luminous type Push Button). b) It shall be possible to connect two other intercom units as required by Engineer in charge. c) Wiring from lift car upto machine room in the scope of Lift Supplier.	

17	Terminal buffers	Terminal buffers shall be installed as a means of stopping the car and counterweights at the extreme limits of travel and shall be spring or oil buffers. Buffers in pit shall be mounted on the steel channels or on the suitable concrete blocks.
18	Special features	<ul style="list-style-type: none"> i) A device in the machine room to move the car manually up and down to bring it to the nearest landing in case of failure of power supply. ii) Suitable controls and indications for not starting the lift on overload to be included. iii) Fire man switch at main lobby.
19	Other safety features	<ul style="list-style-type: none"> a) Audio announcement system in Car to announce the arrival of Car at various floors. b) In case of Power failure, "Do not panic, Rescue operation in progress" message shall be automatically announced. c) At least five musical tones to be played continuously in the interval of above announcements and manual over ride facility shall be provided for any emergency announcements. d) In order to ensure that the trapped passengers do not attempt opening the landing door in case of Power failure, the electromechanical latch of landing door should be so designed that it is inaccessible or invisible to the passengers in the car. e) The Safety instructions (Do's and Don'ts) should be displayed at a conspicuous location and should be written in Hindi, English and Tamil languages. f) Electro-mechanical lock & Door contacts fitted on Car and Landing doors will prevent the lift from Starting until the doors are completely closed. g) Infra - red operated doors safety system to be provided. h) The Light Curtain shall consist of infra - red light beams passing across Car Door Entrances. If an object interrupts the infra-red light beams, the receivers will sense and give "open" command to the door operating system. This infra – red light curtain shall operate as low as from 25 mm to a height of 1.8 mtrs
20	Safety gears & Over-speed Governor	<ul style="list-style-type: none"> a) Progressive type Safety gear, mounted on the bottom members of Car frame or otherwise as per Manufacturer's specification shall be operated by an Over-speed Governor erected in Machine room. b) The safety device shall stop the Car whenever excessive descending speed is attained with means to cut-off power from the motor and apply the brake prior to application of safety gear. c) Over-speed governor shall have arrangement to detect slack, loosened or broken over-speed rope.
21	General	<ul style="list-style-type: none"> a) All necessary scaffoldings for the erection of lift, Minor builders work, all necessary steel items such as machine beams, ladder in pit, stretchers, hitch beams, bearing plates, Fascias etc., shall be provided by the lift supplier. b) The scope of getting the licence from the competent authority such as the lift inspectorate shall be in the lift supplier's scope.
22	Guarantee	Supply firm shall give a guarantee of at least twelve months from the date of completion against any material / manufacturing defect and shall include free normal checks.
23	Scope of BSNL	Major civil works such as Construction of hoist way, pit, machine room, Plastering and white washing of these, providing trap door and hoisting beam / Hook, Termination of three phase power supply in a suitable junction box, Hoist way wiring and machine room lighting.
24	Instruction manuals	3 sets of operation and maintenance manuals and special instructions if any for care and maintenance during lift operation shall be supplied preferably before commencement of installation work.

GENERAL SPECIFICATIONS FOR LIFTS

1.0 Scope :

This section deals with technical requirements of lift installation, its components and safety devices, various type of controls and methods of operation. The selection of a particular type of control and method of operation will be guided by the requirements in individual case such as nature of building, usage, occupancy, traffic pattern etc., and has to be decided in individual cases.

2.0 Drive Machinery

2.1 Electric Supply:

Three phase, 50c/s, 415 V electric supply shall be made available. The entire lift equipment should be suitable for operation at +10% to -20% of the rated supply voltage.

2.2 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 AC gearless with VVVF drive.

2.3 Sheaves:

Sheaves and pulleys shall be of hard alloy, cast iron, SG iron or steel and free from cracks, sand holes and other defects. They shall have machined rope grooves. The traction sheave shall be grooved to produce proper traction and shall be of sufficient dimension to provide for wear in the groove. The deflector sheave shall be grooved so as to provide a smooth bed for the rope. The deflector or secondary sheave assemblies where used shall be mounted in proper alignment with the traction sheave. Such deflector sheaves shall have grooves larger than rope diameter as specified in clause 8 of IS 14665 (Part -4-Sec3):2000. The size of all the sheaves shall be in accordance with clause 8.4 of IS 14665 (Part-4-Sec 3):2000. Wherever necessary, suitable protective guards may be provided.

2.4 Shaft Keys

Shafts which support sheaves, gears, coupling and other members which transmit torque shall be provided with tight fittings keys of sufficient strength and quality.

2.5 Brake:

The lift drive machinery shall be provided with an electro-magnetic brake or motor operated brake normally applied by means of springs in compression when the operating device is in off position. The brake shall be suitably curved over the brake drum or brake disc and provided with fire proof friction lining. The operation of brake shall be smooth, gradual and with minimum noise. The brake shall be designed to be of sufficient size and strength to stop and hold the car at rest with rated load. The brake should be capable of operation automatically by the various safety devices, current failure and by the normal stopping of the car. The brake shall be released electrically. It shall also be possible to release the brake manually, such releases requiring the permanent application of manual force so as to move the lift car in short stops. For this purpose suitable brake release equipment wherever necessary shall be supplied with each lift installation and the same shall be kept in safe custody to prevent misuse.

2.5.1 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 a 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 color advising the maintenance staff to switch off the mains supply before releasing the brake and operating the wheel is to be prominently displayed.

2.6 Bearings:

Bearings shall be either of the anti-friction metal sleeve type with oil reservoirs, self, lubrication oil gauges capped filler openings and drains of the ball roller or sintered type subject to oil flood lubrication or grease lubrication. Grease lubricated bearings shall have grease gun connections and drain plugs. The bearings and lubricant reservoirs shall be dust tight and shall incorporate effective

seals to prevent leakage. The outer end of the bearings shall be closed with a removable oil tight plate. Thrust bearings shall be of the ball or roller type and shall have two sets of balls or rollers arranged to minimize backlash for efficient working.

3.0 Type of controls:

3.1 Variable Voltage Variable Frequency:

Incoming mains AC power is first rectified to DC and then inverted to provide controlled AC current to the elevator drive. Precision monitoring of motor speed and car direction, position and load enable the pulse width of the AC power supplied to the motor to be adjusted to ensure that elevator speed is maintained very accurately to an ideal profile.

VVVF control shall incorporate:-

- a) Total control at all stages of the motion cycle.
- b) A consistent fully adjustable smooth ride
- c) Better levelling accuracy under all conditions
- d) A higher power factor
- e) Lower starting currents
- f) Energy saving through reduced power consumption.

4.0 Installation aspects:

4.1 Installation in machine room –

Lift machine room to accommodate the drive machinery, controller, etc. shall as far as possible be located on top of the lift shaft. The layout of equipment there should be such as to allow free movement of maintenance personnel inside. Machine room shall not be used for storage purpose.

4.1.1 Vibration, Isolation-vibration and isolation arrangement shall be provided to prevent transmission of vibration to the building and structure.

5.0. Guide rails

Guide rails shall be in accordance with clause 3 of IS 14665 (Part 4-Sec 2) 2000. Only machined guide rails shall be permitted for cars for passengers lifts. Formed sheet metal rails shall be used up to speeds of 1.75 m/sec. for counter weight applications.

The guide rails shall be continuous throughout the entire travel and shall withstand without any deformation the action of safety gear with a fully loaded car.

Generally the guide rails shall be supported by brackets secured to the hoist way frame at each floor. The rails shall be securely fastened to the brackets or other supports by approved heavy rail clamps. All necessary guide rails packing or additional supports shall be provided to prevent guide rail deflection and stresses exceeding the prescribed limits. The stresses on the guide rail due to the horizontal forces imposed on it during loading, unloading and running calculated without impact shall not exceed 1100 kg/sq. cm based upon the class of loading and the deflection shall not exceed 5mm. The guide rail brackets, their fastenings and supports shall be capable of resisting the horizontal forces mentioned above, with the total deflection at the point of support not in excess of 3 mm. Guide rails shall extend from pit floor to the underside of concrete slabs or grouting at top of the lift well. They shall be erected in plumb and parallel with a maximum deviation of 3mm. All shimming required shall be of metal securely held in place. Jointing plates shall be so located as not to interfere with supporting clamps and brackets. The bolts shall be used with spring lock washers. The guide rail anchorage at pit floor must be made without puncturing the water proofing. The expansion joints in the guide rails shall be so designed as to avoid jerks in the lift car. Machined guide rails shall have

finished surfaces which shall be coated with corrosion preventive compound which shall be maintained till the commissioning of the installation. Before the car is placed in operation, the preventive coating shall be removed and the guide rails thoroughly cleaned and smoothened.

6.0 Lift Car

6.1 Car Frame

The car frame shall be in accordance with clause-4 of IS 14665 (Part 4-Sec 3): 2001 made of sheet steel of rigid construction to withstand without permanent deformation the operation of safety gear. The car shall be so mounted on the frame that vibration and noise transmitted to the passengers inside is minimized.

6.2 Car platform

6.2.1 The car platform shall be of framed construction and designed on the basis of rated load evenly distributed. The dimensions shall conform to IS: 14665 (Part 1) 2000 unless otherwise specified. The flooring shall be smooth and of anti-skid surface.

6.2.2 A load plate along with overload alarm, giving the rated load and permissible maximum number of passengers should be fitted in each lift car in a conspicuous position.

6.3 Car body

The car shall be enclosed on all sides by a metallic enclosure. The enclosure including the door shall withstand without deformation a thrust of 35 kg applied normally at any point and as per IS 14665 (part 4/Sec 3)-2001. Ventilation openings if specified shall be as per IS 14665 (Part 4/Sec- 3)-2001.

6.3.1 Lift car door shall have a fire resistance rating of one hour.

6.3.2 Grounding switch(es), at ground floor level, shall be provided on all the lifts to enable the fire service to ground the lifts.

6.4 Car roof

The roof of the car shall be solid type capable of supporting a weight of at least 140 kg and as per IS 14665 (Part – 4-Sec 3)-2001.

6.5 Car Thresholds

Car entrance shall be provided with metal thresholds having a grooved surface. Thresholds for lifts having horizontally sliding car doors or gates shall have machined or extruded guide grooves.

6.6 Toe Guard Aprons

The toe guard apron of gauge not less than 1.6mm sheet steel may be provided extending at least 15mm beyond entrance jambs at each side. The guards shall have a straight vertical face extending below the level of the finished car floor and not less than the depth of the levelling zone plus 7.5 mm. The bottom of guard shall extend 700mm for lifts up to speed of 1.5 mps & 1000 mm for lifts above speed of 1.5 mps below vertical face and bevelled at 15° angle from the vertical. It shall be seamed to car platform construction and be reinforced and braced.

6.7 Clearance

The clearance between the top of the car and the soffit of the lift shaft roof, bottom of the car and the pit floor, the buffers etc., and the clearance between the car and the lift well, between the car and the landing sill, between two lift cars in the same shaft etc, shall be provided as per IS 14665 (Part 1,2 &4) and relevant lift rules mentioned in Appendix-1 of CPWD specifications (Part – III – lifts and escalators) 2003.

6.8 Car Apron, landing Thresholds and Sills

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

6.9 Inter-communication system

6.9.1 Though Para 8.4.3 of IS 14665 (part 2/Sec 1): 2000 recommends for provision of either an emergency signal 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 two 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.

6.9.2 The device used for emergency signals should incorporate a feature that gives immediate feedback 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 passenger in the car.

6.9.3 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.

6.10 Ratings and Instructions

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

6.11 Lift car interior finish

The side, rear and facia panel shall be of scratch free stainless steel sheet. The flooring shall be with 3 mm thick PVC tiles for passenger lifts. The false ceiling in the lift car shall be crafted from mild steel powder coated to suitable colour with CFL lamps and fan diffuser (s) in different colour.

6.11.1 Operating Panel inside the car

The car operating panel shall be of stainless steel, flush mounted and duly finished to match the car interior decor and shall contain all the devices as may be specified depending upon the type of operation required. All the switches shall be fade proof and the devices shall be of suitable quality. Each device and its operating position shall be legible, fade proof and marked. In addition to the car operating panel, a separate LED type illuminated panel shall be provided on the top of the door way for indication of floor position and direction of travel simultaneously.

7.0 Car and landing entrances

The Car and landing doors shall be of flush type sheet steel only for power operation. The flush type shall further be of centre opening. Power operated car and landing doors shall be so designed as not to injure any person during their closure by means of provision of a safety pressure switch which shall cause the doors to reopen on the slightest pressure. In case of power operated doors, it shall be possible on power failure to open them from the car side. All the openings for passenger lifts shall be 2000 mm clear in height. The door opening and closing shall be accomplished smoothly and quickly without undue noise, vibration and shock and their movements shall be cushioned and checked at both limits.

7.1 Car doors

7.1.1 The car door shall be hung from the top M.S. fabricated track and means shall be provided to prevent the door from jumping off the track. The doors shall be provided with two point suspension sheave type hangers suitable for the type of door operation specified. The hangers shall be securely fastened on bearings mounted on a malleable iron or steel bracket. Arrangement shall be provided for vertical and lateral adjustment of car doors. The sheaves shall move on a M.S. fabricated track so shaped as to permit free movement of sheaves with regard to vertical adjustment of sheave bracket or housing. The car door shall be centre opening horizontal sliding stainless steel scratch proof (moon rock finish)

7.1.2 A potential cause of accidents could be the attempts made to open the landing door lock of lower floor in case the car stops away from floor level due to power failure. Since the car door can be opened in case of power failure so as to improve the ventilation and avoid claustrophobic situations etc. as outlined in IS 14665 (part 2/sec 1) : 2000 para 10.9.1, there is a tendency among trapped passengers to make attempts to open any accessible landing door which can be opened by an electromechanical latch in the landing doors as the lock is accessible through open car doors. This attempt in panic may result in accidental fall into the lift pit. In order to ensure that the trapped passengers do not attempt opening the landing door, the electromechanical latch should be so designed that it is inaccessible or invisible to the passengers in the car.

7.1.3 In **order** to avoid accidental closure of doors while boarding or alighting the car, a tamper proof infrared curtain covering almost the entire height of the door should be provided in the lift doors.

7.2 Landing doors

Each landing door shall be complete with locks, headers, sills, frames, rims, hanger supports with cover plates, facia plates, etc. The finished work shall be strong, rigid and neat in appearance. Plain surfaces shall be smooth and free from warp or buckle. Moulded surfaces shall be clean out, straight and true. Fastenings shall be concealed from the face side of the material. Steel Sills shall be provided with a suitable nosing of approximately 25mm depth on the shaft side.

The opening for the landing gates or doors shall not be wider than that of the lift car. In the case of bi-parting type steel doors, the locking of the two leafs locking of the doors should be positive.

7.3 Car landings:

7.3.1 For the purpose of identification, the lift number should be displayed outside the landing door, inside the car and in the machine room. This numbering may be used as reference for the purpose of routine / preventive maintenance, for operating from machine rooms and reporting of any incidents etc.

7.3.2 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.

7.3.3 It is seen generally, that though the instruction on DO's and Don'ts, as per provision of the relevant IS, are displayed in lift cars but the same are either displayed in inconspicuous location, or are very small in size or are in one language only. To make these instructions serve the intended purpose, and not a mere compliance of relevant IS clause; that these instructions should be displayed at a conspicuous location with larger and understandable script and should be written in Hindi, English and regional language (where official regional language is notified).

8.0 Levelling

All lift (s) shall be incorporated with suitable floor levelling device. Incase of lifts with automatic power operated doors and with A.C. VVVF controller a separate level device for automatic levelling with levelling accuracy of +5mm shall be incorporated.

9.0 Counter Weight

The counter weight for lift cars shall be in accordance with clause 6 of IS 14665 (Part 4-Sec-3):2001 and shall be designed to balance the weight of empty lift car plus approximately 50% of the rated load.

It shall consist of cast sections firmly secured in relative movement by at least two numbers steel tie rods having lock nuts / split pins at each end and passing through each section and Housed in a rigid steel frame work. Cracked and broken sub weights shall not be accepted.

9.1 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.

10.0 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.

10.1 Solid type sliding guide shoes

The car shall be provided with solid or spring loaded swivelling guide shoes with renewable liners, where the lift car speeds are up to and including 1 MPS. The cars with speeds beyond 1 MPS shall be provided with spring loaded guide shoes with renewable liners or the guide shoes shall be of roller type.

10.2 Roller type guide shoes

Each roller type shoe shall be of an approved type consisting of rollers assembled on a substantial metal base and mounted as to provide continuous contact of all rollers with the corresponding guide rail surfaces under all conditions of load and operation. The rollers shall run on the three finished guide rail surfaces and shall operate quietly.

10.2.1 Mounting of guide shoes

Guide shoes shall be provided with adjustable mountings & shall be rigidly secured in accurate alignment at the top and bottom on each side of the car sling and counter weight frame construction. When oil buffers attached to the bottom of counter weight are used, additional guide shoe shall be provided on each side of the buffer frame. The design of guide shoes and car safety device shall be as per relevant IS standards, and CPWD General Specification for Electrical works (Part – III – lifts and escalators) 2003.

11.0 Lift Ropes – IS 14665 (part 4 / Sec 8)-2001

Round strand steel wire ropes made from steel wire ropes having a tensile strength not less than 12.5 tonnes / cm² and of good flexibility shall be used for lift. Lubrications between the strands shall be achieved by providing impregnated hemp core. The lift ropes shall conform to IS 14665-(Part-4-Sec.-8): 2001 and the following factor of safety shall be adhered to. The minimum diameter of rope for cars and counter weight of passenger shall be 8mm.

Rope speed of passenger lifts (m/s)	Factor of safeties
0.5 or less	8
exceeding 0.5 to 1.0	8.6
exceeding 1.0 to 2.0	10
exceeding 2.0 to 3.5	11
exceeding 3.5	12

11.1 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 Babbitt sockets, or any other suitable arrangement. Each lift rope shackle shall be fitted with a suitable shackle spring, seat washer, shackle nut & lock & shackle nut split pin.

11.2 Guards for lift ropes

Where lift ropes run round a sheave or sheaves on the car and / or counterweight of geared/gearless machine suitable guards shall be provided to prevent injury to maintenance personnel.

11.3 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 manufacturers issued by competent authority.

12.0 Safety Equipments:

Every lift installation shall necessarily be provided with the following safety features.

12.1 The safety gear shall be provided in accordance with IS 14665 (Part-4-Sec.4):2001, each type of car safety shall be actuated by a speed governor.

12.2 Governor - the car safety shall be operated by speed governor located overhead and driven by governor rope suitably connected to the car and mounted on its own pulleys. 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 phosphor bronze. These shall be in accordance with IS 14665 (part4/sec-4): 2001. Governor for car safety gears shall be adjusted to actuate the safety gear at the following speeds:-

- (a) For rated speeds up to 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 percent of the rated speed.

12.2.1 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.

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

12.3.1 The governor sheave and tension sheave shall be according to clause 2.3 and the sheave bearing shall be according to **clause 2.6 of this specification**.

12.3.2 The requirements for field tests on car safety and governor and for drop tests to sliding type car safeties shall be as specified in relevant IS standards and as specified in Section – IV of CPWD General Specification for Electrical works (Part – III – lifts and escalators) 2003.

12.4 Terminal limit switches

12.4.1 Terminal switches

These shall stop the car automatically at terminal floors within the top and bottom permissible over travel. They shall act independently of the operating devices, the ultimate limits switches and the buffers. They shall be in accordance with clause 8 of IS:14665 (part 3-Sec 1): 2000.

12.4.2 Terminal stopping devices located in shaft or in the car and operated by cams shall be fitted with rollers having a rubber or other approved composition to provide silent operation when actuated by the cam. When the lift car cross head is 60cm from the nearest obstruction above it, no projection on the car shall strike any part of the overhead structure.

12.5 Ultimate terminal Switches

These shall be provided in accordance with the statutory requirements and standing practices. When provided these shall arrange to stop the car automatically within top and bottom clearances

independently of the normal terminal switches but with the buffers operative. These shall be in accordance with clause 8 of IS: 14665 (Part 3/Sec1): 2000.

12.6 Buffers-(IS 14665(Part 4/Sec1)-2001)

Buffers shall be oil resistant rubber pad type for speeds up to 0.25 mps and spring / oil type for speeds up to 1.5 mps and only oil type for speeds higher than 1.5 mps. **Buffers shall be suitable for installation in the space available. Buffer anchorage at pit floors shall be installed avoiding puncturing of water proofing.** Oil buffers of the car and counter weight shall be of the spring return type or of gravity type. The 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 car cross head is 60 cm from the nearest obstruction above it, no projection on the car shall strike any part of the overhead structure. The contractor must indicate the name of buffer manufacturers, buffer stroke & certified maximum loads.

12.7 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 levelling devices and in such cases, it shall be permitted to move the car with both the doors open in the levelling zone for the purpose of levelling.

All the locks and contacts shall conform to IS: 14665(Part 1/Sec 6)-2001 shall be positive and pass the prescribed endurance and reliability test from a recognized testing laboratory. They shall be so located as to be inaccessible to un-authorized personnel. The electromechanical latch should be so designed that it is inaccessible or invisible to the passengers in the car.

12.8 Other safeties

Besides these safety devices mentioned above, motor operated electro-mechanical brake (**Clause – 2.5 of these specifications**), counter-weight guards (**Clause – 9.0 of these specifications**), alarm bell, emergency door lock release operating key and associated safety and other safety requirements shall also be included.

12.8.1 The lock and key provided for landing door emergency manual de-locking shall be of tamper proof design to prevent un authorised opening of the landing door.

13.0 Lift operations

13.1 Automatic-cum-attendant operation

Duplex 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 buttons shall be made by automatically starting the car and sending it to the desired landing, but wherein the stops registered by the momentary actuation of the landing buttons are made in the order in which the landings are reached in each direction of travel (irrespective of the sequence in which the buttons have been actuated.) In all the cases, the starting of the car is contingent on the establishment of landing door and car inter-lock circuits. 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 of the direction of travel of the car.

In case 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 interrupted 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.

14.0 Controlling Equipment

The movement of the car shall be electrically controlled by means of a controller located in the machine room.

14.1 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.

14.2 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.

14.3 Auxiliary Switches

14.3.1 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.

14.3.2 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:

- a) The car speed shall be less than the rated speed not exceeding 0.85 meters / sec.
- b) 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.

14.3.3 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 travelling upward. The doors will not open at this landing and the lifts will start travelling to ground floor. If these were already travelling down, they will go straight to ground floor direct without stopping enroute.

14.3.4 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 switch on the top of the car.

14.3.5 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.

14.4 Control Wiring

14.4.1 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 and CPWD. Specifications for electrical works.

Following general principles shall be followed in wiring:

- (a) (i) 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.
- (ii) Metal duct with removable inspection cover shall be preferred.
- (iii) 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 IE. 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 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.

14.4.2 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 midpoint 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 counter weight, shaft walls or other equipment, and also 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.

5 % of the total capacity subject to a minimum of 5 wires shall be available unutilized in the trailing cable every where suitably distributed between various functions.

14.4.3 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.

14.5 Miscellaneous

Principle of segregation function wise shall be accepted as far as possible in the general arrangement of components. All terminal blocks shall be of 650V grade.

14.6 Controller casing:

The controller unit comprising of the main circuit breaker adjustable overload and phase reversal and phase failure protection all the circuit elements transformer, rectifier for D.C. control supply, inverter power pack, terminal blocks etc., shall be enclosed in an insect proof, sheet steel floor or wall mounted cabinet with hinged doors at front or at both front and rear. Proper warning boards and danger plates shall be provided on both sides of the controller casing. Sheet steel used for controller cabinet shall not be less than 18 gauge and shall be properly braced where necessary. Suitable gland plate shall be provided for cable entry. The battery for the charger unit shall be suitably placed in the machine room.

All sheet steel work shall be painted with two coats of synthetic enamel paint of suitable shade both inside and outside over two coats of zinc primer.

15.0 Lift Rope Compensation

The lift rope compensation for lift travel shall be provided for lift travels beyond 40m in all cases.

16.0 Automatic Rescue Devices (ARD)

16.1 ARD should move the elevator to the nearest landing in case of power failure during normal operation of elevator.

16.2 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 elevator has stopped, it automatically opens the doors and parks with door open. After the operation is completed by the ARD the elevator is automatically switched over to normal operation as soon as normal power supply resumes.

- 16.3** 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.
- 16.4** All the lift safeties shall remain active during the ARD mode of operation.
- 16.5** The battery capacity should be adequate so as to operate the ARD at least seven times a day provided the duration between usage is at least 30 minutes.
- 16.6** The battery used for ARD operation shall be of maintenance free type.
- 16.7** The ARD shall be fully automatic and instant operation, requiring no human intervention.

17.0 Over load Protection

Over load of the elevator shall be sensed by improvised sensing devices such as strain gauge, load cell and shall be precise and accurate. The lift car and landing door shall not close on over load condition and shall remain open till the over load cease to exist. Audio visual alarm for over load shall be provided inside the car.

18.0 Phase sequence Reversal protection & Automatic phase reversal unit.

The lift shall be provided with phase sequence reversal protection and shall also be equipped with the automatic phase reversal unit, which allows the elevator to run in the correct direction even when the phase sequence is reversed.

**All works shall be executed as per CPWD General Specifications for Electrical Works
(Part – III --- lifts and escalators) 2003, unless otherwise specified.**

All works shall be carried out as per the relevant IS and IE rules as amended from time to time.

SPECIAL CONDITIONS OF CONTRACT

1.0 General:

- 1.1 The following special conditions shall be read in conjunction with general conditions of contract and amendments / correction there to. If there are any provisions in this conditions which are at variance with the provision in the above mentioned documents, the provisions in the special condition shall take precedence.
- 1.2 **THE PRICE SHALL BE FIRM AND VALIDITY OF TENDERS SHALL BE 90 DAYS FROM THE DATE OF OPENING OF THE TENDER.**
- 1.3 The department also reserves the right to enforce curtailment in the quantities of work if the contract defaults in regard to works contract execution.
- 1.4 Rate quoted by the agency for the item 1(supply of Lifts,) shall also take into consideration the reserve price plus quote over and above the reserve price, for buyback of the old lift.

2.0 INSPECTION OF SITE AND CONTRACT DOCUMENTS

- 2.1 For the purpose of inspection of site and relevant documents the Contractor is required to contact EE (Elect) concerned who shall give reasonable facilities for inspection of the same. The contractor shall inspect and examine the site and its surroundings and shall satisfy himself before commencement of work as to the form and nature of the site, the quantities and nature of work, materials necessary for completion of the works, the means of access to the site, the accommodation he may require and in general shall himself obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect his work. No extra charges consequent on any misunderstanding or otherwise shall be allowed.
- 2.2 Variation in quantities in respect of unit rated items will be governed by unit rates in the agreement. This applies to all variations ordered during the currency of the main contract regardless of the quantity of variations for any item of work not covered by the Schedule of work clause 12 of EW-8 shall apply.

3.0 SUFFICIENCY OF TENDER

- 3.1 The contractor shall be deemed to have satisfied himself before entering into the contract as the correctness and sufficiency of his offer for the work and of the rates and prices quoted in the schedule of works and items/quantities or in bills of quantities for the contract period. These rates and prices shall except as otherwise provided, cover all his obligations under the contract and all matters and things necessary for proper completion of works.
- 3.2 **No additional conditions shall be stipulated by the tenderer.**

4.0 PROGRAMMES FOR EXECUTION

The firm shall supply detailed programme to Engineer in charge for execution of contract within 15 days of award of work. The programme shall contain the details about submission of drawing, supply of materials etc. The tentative dates for installation, testing and commissioning shall also be submitted.

5.0 PACKING FORWARDING AND STORING AT SITE:

Before dispatch to site, the equipment/component /materials shall be properly packed with polythene sheet and wooden planks for protection and avoiding transit damages and damage against storage in open area at transporters premises or at work site.

6.0 Coordination at site:

At the site of work, as more than one agency may be working, full cooperation shall be extended to other agencies during progress of work. Further, work shall be carried in such a way so that it may not cause abnormal noise and hindrance to the officers of the department engaged in erection as well as doing normal routine work.

7.0 STORES AND SAFETY:

The contractor from his own sources shall arrange all the stores and materials required for the satisfactory completion of all the work at work site. Lockable space for storing the materials may be provided at the request of the contractor. However safe custody of materials stored at site shall be responsibility of the contractor. **It shall be the responsibility of the contractor to protect the materials / items supplied, from the vagaries of weather by providing proper covering and BSNL is not responsible for damages/deterioration like rusting, disfiguring, breaking etc till the completion of the work.**

8.0 Test Certificate

The firm shall submit original type test certificate of main motor contactors and original manufacturer certificate for ropes.

9.0 Bye laws Indemnity against liabilities

- 9.1 The contractor shall comply with all by laws and regulations of the local and statutory authorities having jurisdiction over the works and shall be responsible for payment of all fee and other charges and giving the receiving all necessary notices and keep the Engineer –in-charge informed about the notices issued and received.
- 9.2 The contractor shall indemnify the department against all claims in respect of patent rights design, trademark or name of other protected rights in respect of any plant, machine, work or materials used for or in connection with the works or temporary works and from and against all claims demands, proceedings, costs, charges and expenses whatsoever in respect of or in relation thereto. The contractor shall defend all actions arising from such claims and shall himself pay all royalties.
- 9.3 License fees, damages, costs and charges of all and every sort that may be legally incurred in respect thereof shall be borne by the contractor.
- 9.4 All liabilities / penal recoveries on matters arising out of tax/excise /levies such as incorrect deductions discrepancies in the filing of returns, revised assessments by the concerned authorities etc,. shall be borne by the contractor.

10.0 Currency of contract:

Rates quoted by the contractor shall be firm and shall be valid for the currency of contract. No cost escalation shall be permitted during the currency of contract.

11. Any alteration to original specification shall be made after mutual discussion and agreement between Department and contractor. Any price implication in this regard shall be mutually discussed and agreed upon, in terms of clause 12 of EW-8.

The Clause 10CC of EW-8 form is not applicable.

12. MODIFICATIONS/ALTERATIONS:

- 12.1. Modifications or alterations in the design / specifications of any equipment / material will not be permitted by the Department as a matter of principle.
- 12.2 However, the Department may relax the above stipulations in exceptional circumstances; where:
 - a) The same is necessitated due to non-availability of material / component of certain specifications or make.

(OR)

 - b) Such alterations constitute an improvement in the opinion of the BSNL.
- 12.3 Prior written approval of the Department shall be obtained before execution of alterations / modifications.
- 12.4 The Department also reserves the right to enforce the curtailment in the assigned quantum of work for any contractor(s) on the following grounds:-

Default(s) in regard to works contract execution assigned.

13. COMPLETION DRAWINGS

The firm shall supply three sets of drawings/documents after completion of the work but before the proposed date of completion of work.

- Schematic diagram of control wiring.
- Operation and maintenance manual of Lift with
 - Maintenance recommendations & procedures.
 - Maintenance intervals.

14. GUARANTEE & DEFECT LIABILITY

- (a) The Guarantee shall be valid for a period of **twelve months** from the date of completion. The contractor shall guarantee that all equipments shall be free from any defect due to the defective materials and bad workmanship and that equipment shall work satisfactory and that the performance and the efficiencies of the equipments shall be not less than guaranteed values. Any parts found defective during the guarantee period shall be replaced without any charge whatsoever. The services of the contractor's personnel, if requisitioned during this period for such work, shall be made available free of any cost to the department.
- (b) The contractor shall depute his representative to the site within **24hrs** of notification of defects by the department.
- (c) A joint inspection report will be made by the departmental representative and representative of the firm regarding the nature of defects and remedial action required in time schedule for the rectification/remedial action.
- (d) In case the contractor fails to depute his representative within 24hrs of notification of defect(s) or fails to cause remedial action within a reasonable time as decided in the joint inspection, the Department may proceed to do so at the contractors' risk and expenses without prejudice to any other rights.

15. CHANGES IN SPECIFICATIONS

The BSNL reserves the right to make changes in respect of specifications of work if in its opinion same is found necessary. However such alterations shall be made after mutual discussions and agreement between the BSNL and the contractor. Any price implications in this regard shall be mutually discussed and agreed up on in terms of clause 12 of EW 8 form. The BSNL as matter of principle will not permit modifications by the contractor in design /specifications of any document /material. However the same can be agreed upon by the BSNL under exceptional circumstances where

- (a) The same is necessitated due to non-availability of material / components of certain specifications / make.

Or

- (b) Such alterations constitute an improvement in the opinion of BSNL.

Prior approval is necessary before undertaking any alteration / modification in the specifications of the equipment.

16. I.S. Standards:

The entire system shall conform to relevant BIS including safety standards as amended up to date. Where IS standards are not available the British standard(s) shall be followed. In case of conflict, the requirements of these specifications shall be given over-riding priority. The electrical and earthing work shall be carried out as per CPWD specifications for electrical works (internal) and electrical works (external) as amended up to date.

17. Inspection at Contractor's Premises

The Department's authorized representative shall have full powers to inspect drawings of any portion of the work or examine the materials and workmanship of the plant at the contractor's works or at any other place from where material of equipment is obtained. Acceptance of any materials or equipment shall in no way, relieve the contractor of his responsibility for meeting the requirement of the specifications but shall have to be replaced free of cost by the contractor in case the equipment of work is found defective or of inferior quality.

APPROVED MAKES FOR LIFT WORKS

S.No.	Item	Makes
1.	Lift	As per the eligibility criteria mentioned in the bid As per the eligibility criteria mentioned in the bid (Compliant 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.)
2.	Battery (Lead Acid / Maintenance Free)	Amara Raja / AMCO / Farukawa / Hitachi / Exide / Prestolite / Standard

Note:

- (1) Any other makes which are approved by BSNLCO up to the last date of sale of tender can also be used in this contract.
- (2) The accessories such as CT/PT/measuring instrument/relays provided by approved make in respect of Transformer/HT Panel/DG /AC Package Units as supplied by approved manufacturer along with the equipments are also acceptable in addition.

COMPLIANCE STATEMENT

We..... (name of the firm) state to comply in full manner with all the General, Commercial, Technical, Operating, financial conditions of the Tender Document for the work of **“SITC of 1No 13 passenger lift at Flower Bazaar LE Building, Chennai.”** without any reservation and deviation.

For and on behalf of (Name of Firm)

(Seal of the contractor /Company /Firm)

(Signature of contractor/Authorized Signatory)

(Postal address)

Dated.....

PROFORMA OF SCHEDULES

(Operative Schedules to be supplied separately to each intending tenderer)

SCHEDULE 'A'

Schedule of quantities : Attached

SCHEDULE 'B'

Schedule of materials to be issued to the bidder : Nil

SCHEDULE 'C'

Tools and plants to be hired to the bidder : Nil

SCHEDULE 'D'

Extra schedule for specific requirements / documents for the work, if any : Nil

SCHEDULE 'E'

Schedule of components of Materials, Labour etc. for escalation : Nil

SCHEDULE 'F'

Reference to General Conditions of contract :

Name of work:	As per NIT notification page
Estimated cost of work:	
Earnest money:	
Security Deposit and performance Guarantee	

General Rules & Directions: Officer inviting tender : Executive Engineer (E), ED I, Chennai

Definitions :

2(v) Engineer-in-Charge : Executive Engineer (E), ED I, Chennai

2(vi) Accepting Authority : SE (E), BSNL Electrical Circle II, CHTD

2(x) Percentage on cost of materials and labour to cover all overheads and profits : 10%(TEN)

CLAUSE 5

Time allowed for execution : **3Months**

Authority to give fair and reasonable extension of time for completion of work : SE (E), BSNL Electrical Circle II, CHTD

Competent Authority for deciding reduced rates : SE (E), BSNL Electrical Circle II, CHTD

Clause 25

Competent authority for conciliation : SE (E) not in-charge of the work.

BSNL EW-8

**Bharat Sanchar Nigam Limited
Electrical Wing**

Electrical Division: ED I, Chennai

Sub Division: ESD VI, Chennai

1. I/we have read and examined the notice inviting tender, schedule, specifications applicable, Drawings & Designs, General Rules and Directions, Conditions of Contract, clauses of contract, special conditions, Schedule of Rates and other documents and Rules referred to in the conditions of contract and all other contents in the tender document for the work.
2. I/We hereby tender for the execution of the work specified for BSNL within the time specified, schedule of quantities and in accordance in all respects with the specifications, designs, drawings and instructions and other documents and Rules referred to in the conditions of contract and all other contents in the tender document for the work.
3. I/We agree to keep the tender open for ninety (90) days from the due date of submission thereof and not to make any modifications in its terms and conditions.
4. If I/We, fail to commence the work specified, I/We agree that the said BSNL shall without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely and the same may at the option of the competent authority on behalf of BSNL be recovered without prejudice to any other right or remedy available in law out of the deposit in so far as the same may extend in terms of the said bond and in the event of deficiency out of any other money due to me/us under this contract or otherwise.
5. Should this tender be accepted, I/We agree to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to therein and to carry out such deviations as may be ordered upto maximum of percentage mentioned in clause 12.3 of the tender form and those in excess of that limit at rates to be determined in accordance with provisions contained in clause 12.2.
6. I/we agree to furnish to BSNL, Deposit at Call receipt/FDR/ Bank guarantee of a Nationalized/ Scheduled Bank for an amount equal to 3% of the contract value in a standard format within two weeks from the date of issue of award letter. I/We agree to keep the performance bank guarantee valid as per the BSNL terms and conditions.
7. 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 to whom I/We am/are authorized to communicate the same or use the information in any manner prejudicial to the safety or interest of BSNL.

<p>Signature of Witness (required in the case of bidder's thumb impression is given by the bidder in place of signature) Occupation of Witness :</p>	<p>(Signature of bidder) (Name & Postal address)</p> <p>Seal of Bidder</p> <p>Date:</p>
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Acceptance of Tender

The above tender (as modified by you as provided in the letters mentioned hereunder) is accepted by me for and on behalf of BSNL for a sum of Rs. _____ (Rupees _____)

The letters referred to below shall form part of this contract Agreement

- a)
- b)

For & on behalf of BSNL

Dated

Signature:
Designation: