

**General Note: BHARAT HEAVY ELECTRICALS LIMITED**

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(A Government of India Undertaking)
HIGH PRESSURE BOILER PLANT
PURCHASE DEPARTMENT - FOSSIL BOILERS
THIRUCHIRAPALLI - 620014
TAMILNADU (INOIA)

PHONE : 2577731
GRAMS : BHARATELEC
FAX NO: 2520719
E-mail :
Web :

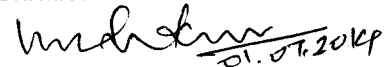
429-002/A

OFFICE COPY	Collective No.	Enquiry Date	Due Date For Quotation
	1701401176	24.06.2014	22.07.2014
Please quote Enquiry No, Date and due date in all correspondences. This is only a request for quotation and not an order			

Item	Description	Unit	Quantity	Delivery Quantity	Schedule Date
10	L017819759301001 PASSENGER CUM GOODS ELEVATOR - CAPACITY :2000kg; SPEEO: 0.55m/sec AS PER SPECIFICATION : TDC:TCI:263:RC/REV.02. 1) NUMBER OF LANDINGS SHALL BE 8 INCLUDING GROUND FLOOR. LANDING LEVELS OF ELEVATOR SHALL BE AS FOLLOWS; 0.0mm, 9000mm, 13100mm, 16300mm, 23550mm, 33500mm, 38900mm & 46900mm. 2) FINISHED FLOOR LEVEL (FFL) = (-)200mm 3) TRAP DOOR & ENTRANCE AT BOILER SIOE. 4) DESIGN, CONSTRUCTION & FINISH OF CAR - MS SHEET FABRICATED. 5) CAR DOOR & LANDING DOOR - SS PANEL(ASTM 304 NO:4 HAIRLINE FINISH)CENTRE OPENING. 6) CAR ENCLOSURE - SS CONSTRUCTION (ASTM 304 NO:4 HAIRLINE FINISH). REMARKS: 1) PACKING PROCEDURE : QA:CI:STO:PR:02/02 SHALL BE FOLLOWED. 2) VENDOR QP SHALL BE SUBMITTED AFTER PLACEMENT OF P.O. AND SUBJECTEO TO CUSTOMER APPROVAL.	NO	2.000	2.00	24.12.14
20	L018019759301001 PASSENGER CUM GOODS ELEVATOR - CAPACITY :2000kg; SPEED: 0.55m/sec AS PER SPECIFICATION : TOC:TCI:263:RC/REV.02. 1) NUMBER OF LANDINGS SHALL BE 8 INCLUDING GROUND FLOOR. LANDING LEVELS OF ELEVATOR SHALL BE AS FOLLOWS; 0.0mm, 9000mm, 13100mm, 16300mm, 23550mm, 33500mm, 38900mm & 46900mm. 2) FINISHED FLOOR LEVEL (FFL) = (-)200mm 3) TRAP DOOR & ENTRANCE AT BOILER SIDE. 4) DESIGN, CONSTRUCTION & FINISH OF CAR - MS SHEET FABRICATED. 5) CAR DOOR & LANDING DOOR - SS PANEL(ASTM 304 NO:4 HAIRLINE FINISH)CENTRE OPENING. 6) CAR ENCLOSURE - SS CONSTRUCTION (ASTM 304 NO:4 HAIRLINE FINISH).	NO	1.000	1.00	24.12.14

The offers should reach us 30 minutes before the time of opening of tenders.
The offers will be opened at 14.30 hrs on the due date of tender in the presence of
tenderers who have submitted their offer and who may like to be present for the tender
opening.Late and delayed offers are liable to be rejected.

Yours faithfully,
For BHARAT HEAVY ELECTRICALS LIMITED


01.07.2014

MANAGER / PURCHASE
K. MUTHUKUMARASAMY

Engineer

Materials Management / BOI
BHEL, TIRUCHY - 620 014.



BHARAT HEAVY ELECTRICALS LIMITED

(A Government of India Undertaking)
HIGH PRESSURE BOILER PLANT
PURCHASE DEPARTMENT - FOSSIL BOILERS
THIRUCHIRAPALLI - 620014
TAMILNADU (INDIA)

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1701401176 / 24.06.2014

11952

ENCLOSURE:

1) SPECIFICATION : TDC:TCI:263:RC/REV.02.

REMARKS :

1) PACKING PROCEDURE : QA:CI:STD:PR:02/02
SHALL BE FOLLOWED.

2) VENDOR QP SHALL BE SUBMITTED AFTER
PLACEMENT OF P.O. AND SUBJECTED TO
CUSTOMER APPROVAL.

3) VALUE REFERENCE: PPO. 7000014206 DT
17/08/2012.

General Note:

1.Offer shall be forwarded in TWO PART BID enclosing the compliance to SPEC , VQP in BHEL Format, No deviation Format duly filled, Commercial conditions.

2.In case of PO, PO will be placed for Enq Sl no.10(2 nos.) and for Enq sl no. 20 (1 no) Po will be placed by HPVP/VIZAG

Enclosures:

"LD clause has to be confirmed without fail."

"Payment to vendors will be made only thro E-Payment mode."

PR Links

Material.	PR.No	PR.Item.	Quantity	Acc. Assign	Customer Number
L017819759301001	106048024	00010	1.000	U1/0178-SY-439-1-97-593	U1/0178
L017819759301001	106048025	00010	1.000	U1/0179-SY-439-1-97-593	U1/0179
L018019759301001	106436379	00010	1.000	U1/0180-SY-439-1-97-593	U1/0180

list of suppliers

RFQ-5200002758

KONE ELEVATOR INDIA PVT.LTD.,
SOUTHERN REGIONAL OFFICE
IV TH FLOOR, KRD GEE GEE CRYSTAL
NO.89-92,DR.RADHAKRISHNAN SALAI
CHENNAI
PIN- 600004

The offers should reach us 30 minutes before the time of opening of tenders.
The offers will be opened at 14.30 hrs on the due date of tender in the presence of tenderers who have submitted their offer and who may like to be present for the tender opening.Late and delayed offers are liable to be rejected.

Yours faithfully,
For BHARAT HEAVY ELECTRICALS LIMITED

M. S. S. S. S.
01.07.2014
MANAGER / PURCHASE
K. MUTHURAMAN
Yours faithfully,
Engineer

Materials Management / BOI
BHEL, TIRUCHY - 620 014.

COMMERCIAL CONDITIONS FOR Enq. Ref: 1701401176 dated 24.06.2014

S.No.	CONDITIONS	BHEL TERMS	Vedor's confirmation
1	Delivery terms	FOR- Project site - BFIL HALDIA, West Bengal	
2	Packing & Forwarding	Vendor Scope	
3	ED	As applicable	
4	CST	As applicable	
5	Freight	Vendor Scope	
6	Insurance	Vendor Scope	
7	Payment terms	75% will be paid directly within 45 days after receipt of materials at site against 10% PBG. Balance 25% payment will be made on handing over of the elevators.	
8	Delivery period	24.12.2014	
9	LD	0.5% -10% Max	
10	Risk Purchase	As applicable	
11	Validity	90 days from the date of Techno commercial bid opening	
12	Firm Price	Prices shall be firm till execution of supplies	
13	Guarantee/ Warranty	18 months from the date of handing over or 24 months from the date of receipt of material at site	
14	Loading criterion as per Annexure sheet will be applied		

Vendor's signature

Date : 16.11.2013

ANNEXURE

Loading Criteria that will be considered for Tender evaluation/Ranking are indicated below.

01 Payment Term :-

BHEL Payment term is 100% payment after receipt and acceptance of materials in 45 days.

Any deviation in the above payment term will attract loading as mentioned below.

“Base rate of SBI (as applicable on the date of bid opening. Techno-commercial bid opening in case of two part bids) + 6% shall be considered for loading for the period of relaxation sought by bidders.

02 Liquidated Damages / Penalty :-

Liquidated damages shall be 0.5% of the total order value per week or part thereof subject to a maximum of 10% of the total order value.

For staggered delivery schedule, LD shall be 0.5% of the undelivered portion per week of the delay or part thereof subject to a maximum of 10% of the total order value.

Any deviation from the above LD clause, loading will be applied to the extent to which it is not agreed by the bidder (at offered value).

03 Guarantee / Warranty Period :-

No deviation permitted.

04 Performance Bank Guarantee :-

No deviation permitted.

BHEL will consider the ranking after the loading is applied as referred above wherever deviations are observed. Offers are liable for rejection for non compliance of point no 03&04 mentioned above.

**BHARAT HEAVY ELECTRICALS LIMITED
TIRUCHIRAPPALLI**

**CONTROLS AND INSTRUMENTATION / FB
QUALITY ASSURANCE**

**STANDARD PACKING PROCEDURE
FOR
ELECTRICAL AND ELECTRONIC PANELS
(INCLUDING BOXES, CABINETS, CUBICLES, SYSTEMS AND CHASSIS)**

Rev	Date	Prepared	Checked	Approved	Revision History
00	01.01.96	Sd/-	Sd/-	Sd/-	Initial History
01	28.03.02	A.J.OMPRAKASH Sd/-	R.VARADARAJAN Sd/-	G.MATHIYALAGAN Sd/-	Department name changed
02	26.02.07	RM.VAJRAVAN <i>[Signature]</i>	N.SRIDHAR <i>[Signature]</i>	S.SOMASUNDARAM <i>[Signature]</i>	Revised after discussion with Shipping Dept.

1.0 SCOPE

- 1.1 This procedure gives minimum guidelines to be complied with for packing of Electrical, Electronics and Instrumentation panels. This packing shall be suitable for different handling operations and for the adverse conditions during transportation and during indoor / outdoor storage for periods more than one year.

2.0 WOOD SPECIFICATION FOR PACKING

- 2.1 Rubber wood as per manufacturer standard.
2.2 Silver Oak as per procedure PR: CHEM:017 or as per relevant International Standards.

3.0 PACKING

- 3.1 For Inland packing, rubber wood and export packing Silver Oak wood shall be used. The wood used shall be seasoned and treated. It shall be free from knots, etc. and any kind of decay caused by insects and fungus.
- 3.2 The required wood case for the equipment to be packed shall be made out of individual planks of single length and no joint is permissible. Using such planks, the required wood case for the panel shall be made,
- 3.3 Sufficient number horizontal, vertical and diagonal planks (dimension depending upon case size) shall be used for binding and strengthening. Runners have to be provided with metallic sling plates for handling.
- 3.4 Support planks are to be provided such that, no force is acting on the parts of equipment or its parts.
- 3.5 Panels above 1.5 metre shall be bolted at the bottom.
- 3.6 The equipments covered with a polythene sheet shall be kept inside the box, followed by coir, wooden bottoms, thermo coal, etc to prevent vibration effect during loading, transportation, etc.
- 3.7 The gap between job and the box shall be filled with suitable material like jute, coir, thermo coal, etc.
- 3.8 On all sides of the inner case, black polythene sheet shall be nailed.
- 3.9 Loose items of the equipment, if any, shall be packed separately.
- 3.10 Delicate components likely to be damaged, example PCB – Electronic modules, instrument, etc are to be covered individually in anti-static bags and packed in cartons and filled with fillers like thermo coal, paper cuttings, etc.
- 3.11 Such cartons shall be packed with overall polythene rapping and packed in wooden cases. Mark prominently as "ELECTRONIC COMPONENTS".
- 3.12 Each case must have sufficient quantity of silica gel, packed in cotton cloth bags, shall be kept at different places as required.
The bags used shall have the following information marked on it.

Silica Gel activator type:

Blue: Active

Rose: Reduced active

White: No activity. To be replaced with fresh Silica gel.

4.0 MARKING

- 4.1 After completing the packing, Stencil marking, as per dispatch instructions and symbol marking as per Annexure – I shall be made. Please ensure the box is stenciled with "FRAGILE ITEM", "HANDLE WITH CARE"

5.0 PACKING SLIP

- 5.1 A copy of the packing slip, kept in a polythene cover shall be kept inside the box. Another copy of the packing slip, kept in a polythene cover shall be kept out side the box and covered with a metallic plate to the case.

6.0 CAUTION

Do not pack any other Mechanical items with this case.

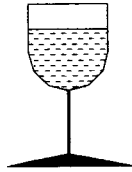
7.0 GENERAL

- 7.1 These packing procedures are the minimum requirements in addition to the standard instructions mentioned in the Purchase Order and Specification.
- 7.2 Deviation to meet the packing procedure requirements / non-clarity in packing approach in any quotation will be liable for rejection of offer.

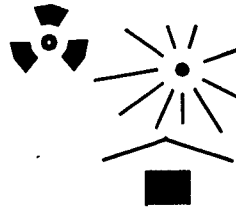
ANNEXURE - 1

TO

PROCEDURE NO:CI:QAC:PR:02/00 ; PR:03/00 ; PR:04/00



FRAGILE, HANDLE WITH CARE



PROTECT FROM HEAT AND RADIOACTIVE SOURCES



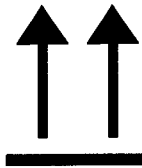
USE NO HOOKS

NOTE: The design of heavy goods packages cannot always resist top lifting by grabhooks.



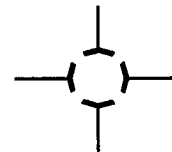
KEEP DRY

NOTE: Not all cases have waterproof internal liners: plywood used in the construction may not have a waterproof glue-line.



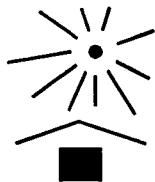
THIS WAY UP

NOTE: Certain designs of small cases make it difficult to distinguish top from bottom.



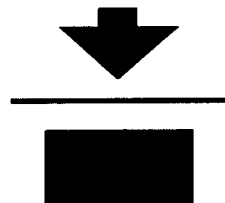
CENTRE OF GRAVITY

NOTE: This should be stencilled as a minimum on the two longest case sides (this information will normally be supplied by the manufacturer of the item(s) packed).



KEEP AWAY FROM HEAT

... kg max



STACKING LIMITATION

NOTE: The maximum load in kilograms should be marked above the arrow.



INTERNATIONAL "SLING HERE" SYMBOL



429-024

PURCHASE / MM / FB SUB DELIVERY - ENQUIRY - DEVIATION

Page

OF

SCHEDULE OF DEVIATION TO
SUB - DELIVERY ENQUIRY No.

DATE

DESCRIPTION		
SPECIFICATION		DRG. No.
QUALITY PLAN		
DOCUMENT REFERENCE	BHEL ENQ. CALLED FOR	FIRM'S ALTERNATE OFFER

CERTIFIED THAT OTHER THAN THE ABOVE DEVIATIONS, WE ARE ACCEPTING ALL THE OTHER SPECIFICATIONS AND REQUIREMENTS IN FULL TO YOUR ENQUIRY

STATION :

DATE :

SIGNATURE OF FIRMS REPRESENTATIVE

FIRM SEAL

- NOTE:
1. Deviations should be taken only in the extreme case.
 2. If necessary, use additional sheets with page control number.

Bharat Heavy Electricals Limited

HIGH PRESSURE BOILER PLANT, TIRUCHIRAPALLI-620014.

CONTROLS & INSTRUMENTATION

TDC:TCI:263:RC / Rev 02

PAGE 01 OF 12

SPECIFICATION FOR PASSENGER & GOODS CUM PASSENGER ELEVATOR

REV. NO	DATE	DESCRIPTION	PREPARED	CHECKED	APPROVED	
			SRR	RD	ENGG. PMV	QAC SD
00	17-07-2003	INITIAL RELEASE	Sd./SRR	Sd./RD	Sd./PMV	Sd./SSM
01	25-05-2010	GENERAL REVISION	Sd./SRR	Sd./RD	Sd./SRC	
02	01-03-2014	GENERAL REVISION	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	

CLAUSE NO.	TECHNICAL DELIVERY CONDITIONS		VENDOR COMPLIANCE (Refer Note: 1)
1.0	SITE CONDITIONS		
	Altitude above MSL	Less than 1000m.	
	Relative humidity	100%.	
	Design Ambient Temp.	50 deg.C	
	Atmosphere	Tropical, Dusty, Corrosive and highly polluted.	
	Wind loads @ 10 metres above sea level	As per IS-875(Part 3) / 1987	
2.0	GENERAL		
3.0	PRE QUALIFICATION REQUIREMENT (APPLICABLE IN CASE OF OPEN TENDER)		
4.0	STATUTORY REQUIREMENTS		
5.0	REFERENCE STANDARDS		
6.0	SCOPE OF WORK		
	<p>i) Design, engineering, manufacture, inspection, delivery, erection, commissioning, successful handing over.</p> <p>ii) Maintenance & services during guarantee period.</p> <p>iii) Any necessary erection / commissioning spares and consumables shall be included in vendor scope.</p> <p>iv) Necessary tools and tackles required for maintenance or testing or inspection shall be covered in vendor scope.</p> <p>v) Necessary chain and pulley block along with hand operated geared trolley arrangement for horizontal movement across the monorail, hoist, rope and hook arrangements at the machine room ceiling to carry out the maintenance and erection of equipment shall be supplied by Elevator vendor. The necessary mono-rail beam will be supplied by purchaser (BHEL).</p> <p>vi) A steel ladder has to be provided for access to the pit by the Elevator vendor. Any necessary erection / commissioning spares and consumables shall be included in vendor scope. Necessary tools and tackles required for maintenance or testing or inspection shall be covered in vendor scope.</p> <p>vii) Guard to protect the hoist way including temporary barricades at hoist way openings by Elevator vendor.</p> <p>viii) Scaffolding as per erection requirement shall be provided by the Elevator vendor. After completion of handing over activities, the scaffolding materials may be taken back by the vendor.</p> <p>ix) All the electrical equipment including Lift well, Hoist way & machine room lighting with fittings.</p>		

CLAUSE NO.	TECHNICAL DELIVERY CONDITIONS		VENDOR COMPLIANCE (Refer Note: 1)																																						
	<p>Power/control/trailing cables, MCCB/MCB & ELCB for 415 V AC 3ph supply and 240 V AC single phase supply (to receive the incoming feeders provided by customer) shall be included in the Elevator vendor scope.</p> <p>x) The vendor shall assume all responsibility in proper design and operation of each and every component of the elevator as well as the elevator as a whole. Complying with Indian electricity rules & Indian electricity acts and applicable statutory requirements (of Government of India and applicable States) and design as well as procedural formalities also shall be taken care by vendor.</p>																																								
7.0	<p>EXCLUSIONS</p> <p>Works not included in elevator contract, but furnished by others in accordance with local codes and regulations and the approved drawing of the Elevator vendor.</p> <p>i) Civil works associated with the Elevator pit.</p> <p>ii) Furnishing and installation of steel beams (Hoisting beams) in the machine room to lift equipment during installation and to facilitate maintenance.</p> <p>iii) Machine room civil works including concrete flooring.</p> <p>iv) Steel structures for Columns and associated bracings and approach platforms up to landing doors at each level.</p> <p>v) Supporting steel material between hoist way & car will be provided by BHEL.</p>																																								
8.0	<p>ELEVATOR PARTICULARS & DESIGN PARAMETERS</p> <p>Passenger & Goods Cum Passenger Elevator shall be provided with 1 no. fireman's switch (Alarm Switch).</p> <p>The Elevator shall be located on the side of the boiler as indicated in the plant layout drawing which will be provided during detailed engineering. Entry to the Elevator shall be indicated in the enquiry. Foundation plan and elevation with landing levels shall be as per purchaser (BHEL) drawings.</p>																																								
9.0	<p>Design Criteria and Equipment specification for Passenger Elevator & Goods Cum Passenger Elevator.</p>																																								
	<table border="1"> <tbody> <tr> <td data-bbox="267 1198 357 1254">i)</td> <td data-bbox="357 1198 641 1254">Type of service</td> <td data-bbox="641 1198 1266 1254">Passenger Elevator/Goods cum Passenger Elevator (as per enquiry)</td> </tr> <tr> <td data-bbox="267 1254 357 1288">ii)</td> <td data-bbox="357 1254 641 1288">Number required</td> <td data-bbox="641 1254 1266 1288">As per enquiry</td> </tr> <tr> <td data-bbox="267 1288 357 1321">iii)</td> <td data-bbox="357 1288 641 1321">Load on the Elevator</td> <td data-bbox="641 1288 1266 1321">As per enquiry</td> </tr> <tr> <td data-bbox="267 1321 357 1355">iv)</td> <td data-bbox="357 1321 641 1355">Rated speed</td> <td data-bbox="641 1321 1266 1355">As per enquiry</td> </tr> <tr> <td data-bbox="267 1355 357 1388">v)</td> <td data-bbox="357 1355 641 1388">Total travel</td> <td data-bbox="641 1355 1266 1388">As per enquiry</td> </tr> <tr> <td data-bbox="267 1388 357 1444">vi)</td> <td data-bbox="357 1388 641 1444">No. of floors to be served (Landing levels)</td> <td data-bbox="641 1388 1266 1444">As per enquiry</td> </tr> <tr> <td data-bbox="267 1444 357 1478">vii)</td> <td data-bbox="357 1444 641 1478">Entrances</td> <td data-bbox="641 1444 1266 1478">One number in each floor</td> </tr> <tr> <td data-bbox="267 1478 357 1534">viii)</td> <td data-bbox="357 1478 641 1534">Entrances and Platform size</td> <td data-bbox="641 1478 1266 1534">As per IS: 14665-2000.</td> </tr> <tr> <td data-bbox="267 1534 357 1657">ix)</td> <td data-bbox="357 1534 641 1657">Method of control Motor Speed Control: Logic Control:</td> <td data-bbox="641 1534 1266 1657">Variable Voltage variable frequency (VVVF) control. Microprocessor based Control with automatic level adjustment. The control system shall be of field proven design and having satisfactory track record.</td> </tr> <tr> <td data-bbox="267 1657 357 1713">x)</td> <td data-bbox="357 1657 641 1713">Flooring of Car</td> <td data-bbox="641 1657 1266 1713">Chequered plate (6 mm thick). Car floor shall comprise of a smooth non-slip surface.</td> </tr> <tr> <td data-bbox="267 1713 357 1747">xi)</td> <td data-bbox="357 1713 641 1747">Position of Machine room</td> <td data-bbox="641 1713 1266 1747">Directly above the Lift shaft</td> </tr> <tr> <td data-bbox="267 1747 357 1848">xii)</td> <td data-bbox="357 1747 641 1848">Design, construction and finish of car</td> <td data-bbox="641 1747 1266 1848">MS sheet fabricated, smooth finish, spray painted to approved shade. If SS (ASTM-304 No: 4 Hairline finish) is required as per enquiry vendor to consider the same in their offer.</td> </tr> <tr> <td data-bbox="267 1848 357 1937">xiii)</td> <td data-bbox="357 1848 641 1937">Car door</td> <td data-bbox="641 1848 1266 1937">MS sheet fabricated, smooth finish, spray painted to approved shade. If SS (ASTM-304 No: 4 Hairline finish) is required as per enquiry vendor to consider the same in their offer.</td> </tr> </tbody> </table>	i)	Type of service	Passenger Elevator/Goods cum Passenger Elevator (as per enquiry)	ii)	Number required	As per enquiry	iii)	Load on the Elevator	As per enquiry	iv)	Rated speed	As per enquiry	v)	Total travel	As per enquiry	vi)	No. of floors to be served (Landing levels)	As per enquiry	vii)	Entrances	One number in each floor	viii)	Entrances and Platform size	As per IS: 14665-2000.	ix)	Method of control Motor Speed Control: Logic Control:	Variable Voltage variable frequency (VVVF) control. Microprocessor based Control with automatic level adjustment. The control system shall be of field proven design and having satisfactory track record.	x)	Flooring of Car	Chequered plate (6 mm thick). Car floor shall comprise of a smooth non-slip surface.	xi)	Position of Machine room	Directly above the Lift shaft	xii)	Design, construction and finish of car	MS sheet fabricated, smooth finish, spray painted to approved shade. If SS (ASTM-304 No: 4 Hairline finish) is required as per enquiry vendor to consider the same in their offer.	xiii)	Car door	MS sheet fabricated, smooth finish, spray painted to approved shade. If SS (ASTM-304 No: 4 Hairline finish) is required as per enquiry vendor to consider the same in their offer.	
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CLAUSE NO.	TECHNICAL DELIVERY CONDITIONS			VENDOR COMPLIANCE (Refer Note: 1)
	xiv)	Landing door	MS sheet fabricated, smooth finish, spray painted to approved shade. If SS (ASTM-304 No: 4 Hairline finish) is required as per enquiry vendor to consider the same in their offer.	
	xv)	Car Enclosure	MS sheet fabricated, smooth finish, spray painted to approved shade. If SS (ASTM-304 No: 4 Hairline finish) is required as per enquiry vendor to consider the same in their offer.	
	xvi)	Lighting and fan in the car	One cabin fan and two nos. of 20 Watts, recessed fluorescent lamp fitting for operation on 240 V, 50 Hz, AC single phase power supply.	
	xvii)	Method of operation of car	Power operated type – automatic, Horizontal Centre opening / closing car and landing doors. If vertical bi-parting doors are required as per enquiry, vendor to consider the same in their offer.	
	xviii)	Operation of Elevator	Automatic, simplex, selective, collective with and without attendant, through illuminated pushbutton station located inside the car with provision for locking control in Auto or attendant position.	
	xix)	Signals / Indicator	Car position indicator in car, hall position indicator at all floors, Up & down travel direction position indicator, tell-tale lights at all floors, battery operated alarm bell and emergency light with suitable battery and battery charger and controls. Audio annunciation for car position indication shall also be provided inside the car also. Overload warning indicator with visual & audio annunciation.	
	xx)	Shaft lighting	The Elevator shaft shall be suitably illuminated by providing the fittings at every 3m (three metres) from bottom of Lift well. Industrial bulk head / industrial bulk head with integral mounted control gear - 1X100 W incandescent lamp / 1X 70 W HPSV Fittings type: 60 W Bulk head fitting with bulb (or) CFL with fibre covering, conduit pull boxes, wiring, switches, other components / accessories and necessary switches. The make of the fittings & accessories shall be indicated in the offer.	
10.0	DETAILS OF SPECIAL TREATMENT FOR ELEVATOR			
	As the Elevators are to be installed in a heavily polluted and dusty area in a thermal power station, the Elevator components shall be given special corrosion treatment as indicated below.			
	i)	Cars & Counter weight	Anti-corrosive epoxy paint	
	ii)	Fish plates	Anti-corrosive epoxy paint	
	iii)	Car & Counter weight buffer	Anti-corrosive epoxy paint	
	iv)	Supports(Buffer)	Anti-corrosive epoxy paint	
	v)	Rail Brackets	Anti-corrosive epoxy paint	
	vi)	Bracket & rail fasteners	Zinc-passivated with epoxy painted	
	vii)	Tie down bolts	Zinc-passivated with epoxy painted	
	viii)	Machine	Anti-corrosive epoxy paint	
	ix)	Brake adjusting screw & coupling fasteners	Zinc-passivated	
	x)	Bracket	Anti-corrosive epoxy paint	
	xi)	Controller cabinet	Anti-corrosive epoxy paint as per industry standard.	
	xii)	Hall buttons	Dust-proof with aluminium face plate or stainless steel hardware.	

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xiii)	Car operating panel	Dust proof stainless steel plate and hardware.	
xiv)	Governor	Cover and casting epoxy painted. Other components zinc plated.	
xv)	Governor Tension frame	Hot dip galvanised and anti-corrosive epoxy paint with M.S. shaft for sheave.	
xvi)	Car frame, level brace rods and counter weight frame	Epoxy paint as per IS-1477 Part 1 & 2.	
xvii)	Safety equipment (Linkages)	Zinc-plated	
xviii)	Safety switch and car gate switch	IP-65. Dust proof heavily zinc plated arm, stainless steel shaft and housing as per vendor standard.	
xix)	Guide shoe	Zinc-plated	
xx)	Cam bar mountings and channels	Zinc-plated and anti-corrosive epoxy paint	
xxi)	Counter weight frame	Anti-corrosive epoxy paint	
xxii)	Guide shoe with Nylon ribs	Zinc-plated	
xxiii)	Filter weights	Anti-corrosive epoxy paint	
xxiv)	Rope fasteners	Zinc-passivated and chromate dipped	
xxv)	Hoist rope	Greased after galvanising / self-lubricating	
xxvi)	Governor rope	Greased after galvanising / self-lubricating	
xxvii)	Car enclosure, interior gate, car door and landing door	Anti-corrosive two coats baked enamel paint	
xxviii)	Alarm and door open bells (Electronic hooter)	Painted.	
xxix)	Junction box	Metallic body - dust proof with Anti-corrosive epoxy paint	
xxx)	Hall position indicator and car position indicator	Dust proof with stainless steel enclosure and Face plate.	
11.0	MECHANICAL EQUIPMENT		
11.1	ELEVATOR CAR		
	<p>The car platform frame and sling shall be of steel construction. The platform shall be suitably isolated from its sling. The car shall be enclosed with suitably braced and reinforced sheet metal panel. The sheet metal panel shall have ventilation slots at the base. The car interior, the car doors and the landing doors shall be finished with two coats of baked enamel. All other exposed steel or cast surfaces shall be painted with one coat of suitable metal primer and two coats of machinery enamel paint. The car shall be provided with the following accessories:</p> <ul style="list-style-type: none"> i) Car control station with position indicator inside the car and at landing platforms. ii) An emergency stop switch (shall have two sets of potential free contact. Second one shall be taken and terminated in machine room for further connection by owner) iii) A three pin plug & socket with switch on top of Elevator car for use by persons working there on. iv) Telephone instrument shall be provided inside the car. Connection from the same shall be brought up to the machine room for further connection to plant network by customer. Telephone instrument provided inside the car shall have provision for hands free operation also, i.e. Speaker phone shall be provided for hands free operation. v) For better safety, elevator vendor to provide car top barricade on car top to ensure that service personnel stay inside the car region. A selector switch and a set of push buttons shall be provided on the top above the ceiling of the car to operate the elevator locally for inspection and maintenance. The selector switch when set to position "inspection" shall exclude control from other places and movement of the car in the desired direction shall be effected by the push buttons. For normal operation of the elevator, the selector switch shall be set to the position working. It shall be possible to operate the elevator only when the appropriate button is kept in pressed condition. The roof shall be strong enough to support at least two persons. vi) Adequate lighting and ventilation shall be provided in the Elevator car. The car shall be fitted 		

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	<p>with fan of adequate capacity and lighting with decorative fittings. The car platform shall be robust in construction and elegant in appearance.</p> <p>vii) The car shall be provided with an emergency alarm push button inside the Elevator car which shall be clearly marked. The alarm shall be clearly audible outside the Lift way in order to obtain assistance in case of breakdown or failure between the floors.</p> <p>viii) Car shall be equipped with handrails on three sides.</p>	
11.2	CAR DOOR	
	<p>The car door shall be of hollow metal construction 16 gauge thick sheet steel. Sides of the door shall be flush with all seams continuously welded. Guide shoes shall be rubber or roller type designed for operation on un-lubricated guides. The car door shall be provided with locking gear of heavy and robust construction, so arranged mechanically and interlocked that the doors cannot under any circumstance be opened unless the Elevator car is within a particular landing zone. Conversely the Elevator shall not move until all the landing doors are closed and interlocked properly.</p> <p>Width of Car Entrance shall conform to IS:14665.</p> <p>The live load coming into play shall be taken into consideration while designing doors, door frame and hanger tracks. The car doors shall be designed such that their closing and opening is not likely to injure a person. A retractable safety shoe shall extend the full height and project beyond the front edge of the car, to open the closing door if and when it touches a person or an object. Alternatively opening of car by means of optical sensing shall also be provided.</p>	
11.3	LANDING DOORS	
	<p>All landing openings in the Lift well enclosure shall be protected with doors which shall extend the full height and width of the landing opening. The type of door provided shall be similar to the Elevator car door. Every landing door shall be fitted with a locking device. The door shall be suitably interlocked so that they cannot open unless the car is within a particular landing zone. The locking device is closed until the door is closed. The levers operating the locking devices shall not interfere with the landing side or Elevator enclosures. Landing doors of the elevators shall have fire resistance of at least one hour. These doors shall also be smoke tight as far as possible.</p>	
11.4	LOAD PLATE	
	<p>A load plate displaying the rated load of the Elevator in terms of persons and kilograms shall be fitted in the car in a conspicuous position.</p>	
11.5	SUSPENSION ROPES	
	<p>The car and the counter weights shall be suspended by steel wire ropes. Chain shall not be used for suspension. Not less than four independent stranded steel wire suspension ropes shall be used for car or counter weights of the Elevator with traction drive. The minimum diameter of the stranded rope shall not be less than 12.5 mm and minimum factor of safety shall not be less than 12. The suspension ropes shall conform to latest edition of IS 2365 – "Specification for steel wire suspension ropes for Lifts and hoists" or equivalent International Standards.</p>	
11.6	SHEAVES AND PULLEYS	
	<p>All driving sheaves and pulleys fixed to and revolving with the shaft shall be fixed by means of sunk keys of sufficient strength and quality. Sheaves and pulleys shall be made of cast steel to IS: 1030 and free from cracks, sand holes and other injurious defects. They shall have suitable flanges and smoothly machined rope grooves. The diameter of the sheave or pulley shall be as specified in the latest edition of IS 14655 or equivalent International Standards.</p>	
11.7	SHAFT	
	<p>Shafts and axles shall be forged steel. They shall have sufficient rigidity and bearing surface. Any shaft when stepped shall be turned to a reasonable radius at the point of reduction.</p>	
11.8	COUNTER WEIGHTS	
	<p>The Elevator shall be provided with suitable counter weights located in the Lift shaft. The counter weight shall be designed for smooth and easy operation of the Elevator and shall be in accordance with Indian Standard (or) equivalent International Standard. Suitable counter weight screen shall be provided in the Elevator shaft. The counter weights shall consist of cast iron weight contained in structural steel frame. It should preferably be equal to that of the car weight plus 40 % of the rated load. The traction should be such that no appreciable slip may occur but that slip shall be free to take place upon the landing of either the car or the counter weights.</p>	
11.9	GUIDE RAILS	
	<p>Guide rails for the car and counter weights shall be machined 'T' sections and continuous</p>	

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	throughout the entire length and shall be provided with adequate steel brackets or equivalent fixing of such design and spacing between brackets shall be such that to avoid any deflection during the normal operation. Guide rails section shall be adequate to withstand the forces resulting from the application of the safety gear when stopping the counter weights or fully loaded car. The guide shoes or their lining shall be easily renewable, adjustable and self-lubricated. Guides shall be of such length that it shall not be possible for any of the car or the counter weight shoes to run off the guides.	
11.10	BUFFERS	
	Sufficient number of buffers of spring loaded type shall be fitted below the Elevator car and counter weights. The buffers shall be capable of stopping the car or counter-weights without permanent damage or deformation to itself or any part of the Elevator equipment. The number of buffers shall be so fixed as to ensure proper sharing of the impact loads by all of them.	
11.11	EMERGENCY SAFETY DEVICES AND BRAKES	
	The Elevator shall be provided with safety device attached to the Elevator car frame and placed beneath the car. The safety device shall be capable of stopping and sustaining the Elevator car up to governor tripping speed with full rated load in car. The application of the safety device shall not cause the Elevator platform to become out of level in excess of 3 cm/m measured in any direction. Slack rope switches, if necessary, shall also be provided. The Elevator vendor shall also provide personnel evacuation system during the power failure to the Elevator. The Machine shall be provided with direct current spring set, solenoid release double shoe brakes of sufficient capacity to stop the car at any position with the design load. These brakes shall be designed in such a way that it gets applied automatically in the event of power failure.	
11.12	AUTOMATIC RESCUE DEVICE (ARD)-(BATTERY DRIVE)	
	Contractor shall provide a modern advanced electronic drive system of "RESCUING Passengers Trapped in an ELEVATOR" in case of power failure. In addition to the above, bell and cranking device to be provided with hand wheel connected with motor shaft for manual lowering of elevator to the nearest landing level. For all Elevators with ARD, an audio & visual indicator shall be provided inside the Elevator car to alert the person trapped inside that he/she is being rescued. Capacity of battery shall be such that minimum three rescue operations can be performed without recharging. ARD panel shall be suitable for floor mounting. Vendor shall indicate the size of ARD panel (Length x Depth x Height) in the offer.	
11.13	OVERLOAD DEVICE	
	Every passenger Elevator shall be provided with an overload device, which will prevent the Elevator from starting in case the Elevator car is loaded to 110 percent of the rated capacity of the Elevator or more. Elevator shall remain stationery with door open. Audio & visual warning device (Load weighing device) shall be provided to alert the passenger in case of overload.	
11.14	OVER SPEED GOVERNOR AND GOVERNOR ROPES	
	Governor shall be located where there is sufficient room for their proper operation and where they cannot be struck by the Elevator car or counter weight in the event of over run. Each governor shall be marked with tripping speed in terms of car speed in m/sec and the motor control and brake control circuit shall be opened before or at the time the governor trips. Governor ropes shall not be less than 8 mm in diameter and shall be of steel or phosphor bronze and of suitable construction. The ropes shall run clear of the governor jaws during normal operation of the Elevator. The Governor has to be compatible for operation with microprocessor based control system.	
11.15	LEVELLING DEVICE	
	The Elevator shall be provided with a two way automatic levelling device. The levelling device shall take care of overrun and under run of the car and rope stretch, such that car floor is within 6.0 mm from the landing level at all floors while in operation. Aprons of sufficient depth shall be fitted to the car floor to ensure that no space is permitted between the threshold and the landing while the care is being levelled to floor.	
11.16	MACHINE ROOM AND OVERHEAD STRUCTURES	
	All the overhead machinery shall be supported on beam to be furnished by the contractor. The machinery support beam shall rest on top of or be designed to be framed into the contractor's structural steel frame for the boiler house. The Elevator drive controller and all other apparatus and equipment of Elevator installation, except such apparatus and equipment which function in the machine room shall be located at the top of the Lift well. Adequate machine room and hoist way lighting shall be provided by the Elevator	

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	<p>vendor. The maximum loads transmitted by the single heaviest equipment both during erection and maintenance of the Elevator to the machine room floor and other structures like guides etc. shall be furnished by the Elevator vendor within 15 days of placing the award letter. Sound reducing materials below machines in machine room shall be provided. Machine room shall be provided with Industrial type vitreous enamelled reflector - 2 X 40 W (for min. 200 Lux) Fluorescent Lamp.</p>	
11.17	<p>TERMINAL STOPPING AND FINAL LIMIT SWITCHES:</p>	
	<p>The Elevator shall be equipped with an automatic stopping device arrangement to bring the car to a stop at the terminal landings independent of the regular operating device in the car. Such stopping device shall act independently of the operating device, the final limit switches and buffer. Final limit switches shall be provided to stop the car automatically within the top and bottom clearance independent of normal operating device and the terminal stopping device. The final limit switch shall act to prevent movement of the car under power in both directions of travel and shall after operating, remain open until the Elevator car has been moved by a hand operating mechanism within the limits of normal travel. Elevator shall be suitable for continuous 24 hours round the clock operation.</p>	
12.0	<p>ELECTRICAL EQUIPMENT AND CONTROLS:</p>	
12.1	<p>OPERATION AND INTERLOCKS:</p>	
	<p>The operation of the Elevator shall be simplex, selective, collective, and automatic, with or without operator. The Elevator operation shall conform to the following requirements.</p> <ul style="list-style-type: none"> i) The operation of the Elevator shall be through a push button station located inside the car. ii) The Elevator shall not move unless the car door, landing door and all other protected openings connected with the control circuit are closed. iii) Two push buttons, one for upward and the other for downward movement at each intermediate landing and one push button at each terminal landing shall be shall be provided in the landing floors in order to call the car. iv) The landing doors shall be interlocked so that the landing door at any floor shall not open when the Elevator is not on that floor. v) Push button shall be fixed in the car for holding the doors open for any length of time required. 	
12.2	<p>ELEVATOR DRIVE:</p>	
	<p>The Elevator drive shall be equipped with automatic electromagnetic coil type brakes. The Elevator shall be driven by a drive suitable for method of control offered by the Elevator vendor. No friction gearing or clutch mechanism shall be used for connecting the main driving gear to the sheaves.</p>	
12.3	<p>ELECTRIC MOTORS:</p>	
	<p>Motors shall be energy efficient type, High efficiency (IE2) as per IEC-60034-30 suitable for frequent starting with S4 duty class, CDF 40% , Maximum 150 starts per hour at 50 Deg. C ambient and with IP 54 protection class. Motor pull out torque shall be at least 275% of rated torque. Motor shall be of TEFC type. Motor insulation shall be class F or superior with temperature rise limited to class B. Motor paint shade shall be RAL 5012 if called for in the enquiry. Motor datasheet prepared by OEM shall be submitted along with the offer.</p>	
12.4	<p>CONTROLLERS:</p>	
	<p>The controllers shall be designed to start, accelerate, stop and reverse the Elevator when the appropriate push buttons are pressed. It shall be arranged so as to provide maximum convenience to the operator. Contact finger buttons shall be easy to adjust and replace. The speed control device shall be such as to give smooth, easy and accurate speed control. The Elevator controls shall be housed in dust and vermin proof enclosures. The controls shall be wired with stranded copper conductor cables. All equipments mounted shall be neatly labelled as per wiring diagram. Ventilating louvers are to be provided in the panels. Control panel shall be suitable for floor mounting.</p>	
12.5	<p>CABLES AND INTERNAL WIRING:</p>	
	<p>All cables (both power and control) shall be armoured, XLPE insulated & FRLS PVC sheathed.</p>	

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	Wiring shall be done as required to interconnect all Elevator electrical equipment including all power wiring from the main supply source in the machine room. Power cables shall be 1100 V grade multi core, stranded Cu conductor with XLPE insulation, FRLS type ST2 inner sheathed, galvanised steel wire armoured and overall extruded FRLS, Type ST2 PVC sheath. The trailing cables shall conform to IS 4289. All other cables shall conform to latest edition of IS: 7098, IS:1554 & IS:5831.	
12.6	CABLING AND EARTHING	
	Earthing shall be carried out as per IS 3043 and Indian Electricity Rules. The Elevator structures, motor, frames, metal cases and all electrical equipment including conduit, cable armouring and guards shall be properly bonded and earthed by two separate and distinct connection. The Elevator vendor shall provide 25 x 3 mm GI flat for control panel and 50 x 6 mm GI flat earth bus in the machine room and connect all earth points to the same. The earth bus will be connected to the station earth mat by the owner.	
12.7	POWER SUPPLY	
	<p>One three phase 415V, AC, 50 Hz UPS Supply for Elevator main motor, and one single phase 240V, AC, 50Hz supply feeders for lighting, Air conditioner and control panels will be provided in the machine room by BHEL. The exact Power requirement in kVA of three phase supply and single phase power supply shall be indicated in the offer itself by the vendor.</p> <p>The junction box having MCCB/MCB Isolation of adequate rating shall be arranged by the vendor to receive the above supplies. The Elevator vendor shall also indicate the proposed location of junction box in the machine room. All further cabling and wiring from the junction box shall be carried out by the Elevator vendor.</p> <p>The vendor shall arrange to tap power supply required for constructional purposes from the point terminated by the owner.</p>	
13.0	OTHER REQUIREMENTS	
	<p>Electric high speed door operators for the opening and closing of the car doors and landing doors shall be furnished and installed. The car and landing doors shall be mechanically connected and shall move simultaneously in opening and closing. The car door and landing door shall be power closed and shall be controlled in opening and closing by oil cushioning mechanism built into the gear unit. Necessary lockable switches shall be provided in the Elevator machine room to control the operation of the door. Should the electric power fail, it must be possible for the doors to be manually opened from within the car.</p> <p>Overload relays shall be provided to protect the drive motor against overload or a power failure. Suitable protection shall be provided on the controller to protect the Elevator equipment from phase reversal, low voltage.</p> <p>Suitable arrangement shall be provided to intimate unit control room during emergency in the form of audio-visual alarm.</p> <p>Complete set of special tools and tackles required shall be supplied along with Elevator. Each tool and tackle shall be stamped so as to be identified easily for its use and size. Tools shall be supplied in a steel tool box. The list of tools and tackles shall be furnished along with the offer.</p> <p>One number Fire extinguisher (suitable for electrical fire) shall be provided along with each elevator.</p> <p>Machine room shall be provided with 5 tonnes or with 1 No. of one tonne and 2 nos., of 1.5 tonne capacity A/C units (minimum) to make the machine room dust proof. If higher capacity of A/C is required for proper cooling, the same is to be indicated in the offer. Vendor to indicate the power consumption of A/C units in the offer.</p>	
14.0	SPARES	
	The vendor shall furnish the List of start-up, mandatory and recommended spare parts and indicate separately in the offer with item wise price under the title "Schedule of Spare Parts".	

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	<p>The spares recommended above with unit prices shall be valid for at least for three years of normal consumption for operation of the plant. The vendor shall also indicate the service expectancy for these spare parts under normal operating conditions before the replacement is necessary.</p> <p>All the spares offered shall be strictly interchangeable with the parts for which they are intended for replacement. The spares shall be treated and packed for long storage under the climatic conditions prevailing at site. Each spare part shall clearly be marked or labelled on the outside of the packing in single case. The general description of the contents shall be shown on the outside of such cases. All cases, containers and other packages shall be marked suitably and numbered for the purpose of identification.</p> <p>All cases, containers and other packages are liable to be opened for such examination as may be felt reasonable by the purchaser. The vendor shall bear in mind the shipment of the plant having ball or roller type bearings for which the following special provisions shall apply:</p> <ol style="list-style-type: none"> i) If temporary transit bearings are fitted to such plant, then, additionally, two complete sets of service bearings shall be included and shipped with such plant. ii) If the item of the plant is shipped with service bearings in position, then additionally one complete set of service bearings shall be included and shipped with such plants. In either or both of the above provisions, the cost of the additional sets of bearings shall be included in the offer. iii) If replacement of any bearing is required due to damages during shipment or other causes, the spare bearings shall be used to replace at free of charge. 	
15.0	<p>DRAWINGS / DOCUMENTS</p> <p>The following preliminary documents / drawings should be enclosed along with the offer without fail.</p> <ol style="list-style-type: none"> i) Detailed description of the system offered. ii) List of thermal power where the offered system is in operation. iii) Performance certificate of the system offered. iv) Write-up on interlocks, controls and safety devices provided. v) Typical General Arrangement of Elevator (including hoist way, pit well etc.) vi) Typical General Arrangement of machine room and equipment in machine room. vii) Electrical control scheme with legend and write-up. viii) Machine room Air-Conditioning details. ix) Foundation and loading details of machine room floor and the concrete structure. x) Filled in vendor data sheet for Elevator, Main motor and Door operator motor. xi) Filled in vendor quality plan. xii) The major components of Elevator with weight details to be indicated by the vendor in the offer itself. xiii) The make, type, capacity, range of all bought out items xiv) Any deviation from the enquiry specification shall be indicated in the "Sub-delivery Enquiry Deviation Format" attached along with the enquiry. No deviations, unless explicitly taken up by vendor in the enquiry stage itself in the said format and accepted by BHEL in writing, shall be considered after firm order. In case no deviations are there, vendor to indicate "No-deviation" in the fully filled up format. <p>The following documents / drawings shall be submitted within 15 days from the firm order.</p> <ol style="list-style-type: none"> i) Elevator General Arrangement drawings for BHEL/Customer approval. ii) Elevator Technical Datasheet <p>Separate contract-wise drawing approvals shall be obtained by vendor before manufacture of elevators.</p>	
16.0	<p>GUARANTEE</p> <p>The Elevator Vendor shall guarantee that the materials, workmanship and performance of the apparatus installed under this specification is perfect in every respect and that they will make good</p>	

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	of any defects (not due to careless operation) which may develop within 18 months from the date of formal handing over of the equipment.	
17.0	MAINTENANCE	
	After the completion of the installation, maintenance and service for the equipment furnished under this specification shall be provided by the vendor for a period of eighteen months. This service shall include monthly inspections of the installation during regular working hours by trained employees and shall include all necessary adjustments, greasing, oiling, cleaning, supply of genuine standard parts to keep the equipment in proper operation except any part made necessary by misuse, accidents or negligence caused by others.	
18.0	ACCEPTANCE	
	After erection, the performance of the Elevator shall be tested for ascertaining the conformity with the specification and upon satisfactory completion of the tests, the Elevator will be taken over. The responsibility for obtaining commissioning and handing over protocol signed by the customer lies with the Elevator vendor.	
19.0	QUALITY ASSURANCE AND TESTING	
19.1	For NTPC Contracts :	
	<ul style="list-style-type: none"> i) Vendor shall prepare Quality plan in NTPC format (copy enclosed) along with enquiry. This QP will be reviewed by BHEL and if any comments given by BHEL shall be incorporated by vendor. ii) In case of order receipt, this QP will be submitted for NTPC approval. Any comments given by NTPC shall be incorporated by vendor for further approval by NTPC. iii) In case of vendor having NTPC approved Reference Quality Plan (RQP), Endorsement sheet shall be submitted by vendor for getting NTPC approval. iv) Elevators are subject to inspection by BHEL & NTPC and inspection call shall be given 15 days in advance. v) Materials can be despatched only after obtaining CHP clearance & MDCC clearance from NTPC. 	
19.2	For Non-NTPC Contracts with BHEL Inspection :	
	<ul style="list-style-type: none"> i) Vendor shall prepare Quality plan in the BHEL standard Quality Plan format (copy enclosed) along with enquiry. Such a QP shall contain all the required quality checks right from the raw material stage through in process, Assembly, Testing & Final inspection. Any comments given by BHEL shall be incorporated by vendor. ii) In case of order receipt, this QP will be approved by BHEL. iii) Elevators are subject to inspection by BHEL and inspection call shall be given 15 days in advance. 	
19.3	For Non-NTPC Contracts with BHEL & Customer Inspection:	
	<ul style="list-style-type: none"> i) All the points covered under Clause no. 19.2 are applicable for this category. ii) The QP will be approved by customer & elevator will be subject to inspection by customer. Any additional points indicated by customer have to be carried out by the vendor. 	
20.0	O&M MANUALS	
	<p>Vendor to furnish standard O&M manuals for each capacity of elevator, immediately after the release of first purchase order for BHEL's further use (Two copies of CD-ROM). The O&M manual prepared shall be such that the same shall be usable along with the relevant drawing for each project.</p> <p>Project wise O&M manuals along with project-wise details, if any, has to be updated by vendor and handed over to site (Customer & BHEL/Site, after commissioning of elevator) in necessary format as desired by customer.</p>	
21.0	PACKING PROCEDURE	
	Proper packing of all the items shall be done as per vendor standard and dispatched to site. The packing shall be suitable for outside storage at site.	

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22.0	<p>LIST OF ELEVATOR OPTIONAL PRICES</p> <p>The following optional prices to be indicated along with offer for arriving at the base price of elevator.</p> <ul style="list-style-type: none"> i) Rate for addition / deletion of 1 number landing. ii) Rate for addition / deletion of 1Mtr. in travel height. iii) Extra price for having 0.75mps & 1mps speed of goods elevator instead of 0.55 mps for 3 Ton elevator iv) Extra price for having 0.75mps & 1mps speed of goods elevator instead of 0.55 mps for 2 Ton elevator v) Extra price for Car, Car Enclosure and Car Door with SS (ASTM 304 No: 4 Hairline finish) for <ul style="list-style-type: none"> 1) 3 Ton elevator 2) 2 Ton elevator 3) 1 Ton elevator 4) 1088 Kg Passenger Elevator vi) Extra price for Landing door with SS (ASTM 304 No: 4 Hairline finish) for <ul style="list-style-type: none"> 1) 3 Ton elevator 2) 2 Ton elevator 3) 1 Ton elevator 4) 1088 Kg Passenger Elevator vii) Additional price of Automatic Rescue Device (ARD) for increased height of 15 Mtrs. viii) Audio annunciation in the form of metres. ix) Extra price for 1500mm car door clear opening for 2Ton & 3Ton goods elevator x) Extra price for 1800mm car door clear opening for 2Ton & 3Ton goods elevator xi) Extra price for 1500mm landing door clear opening for 2Ton & 3Ton goods elevator xii) Extra price for 1800mm landing door clear opening for 2Ton & 3Ton goods elevator xiii) Extra price for fire resistant landing doors (1 hour as per BS:476 (Part 20 & 22)) xiv) Emergency exit of adequate dimensions on the top of car. xv) Extra price for providing vertical bi-parting doors instead of horizontal centre opening door. 	

NOTE:

- 1) In 'Vendor Compliance' column vendor to indicate 'YES', 'NO' or 'NOT APPLICABLE'. Any deviation from this specification shall be clearly brought out in the sub delivery enquiry deviation format provided along with the enquiry. No deviations will stand in case of firm order unless otherwise accepted in writing by BHEL.

TERMS AND CONDITIONS

1. a) **QUOTATIONS** : Each tender should be sent in double cover, inner cover should be sealed with tenderer's distinctive seal and superscribed with correct tender No. item of supply and due date of opening. The outer cover should only bear the address of this office and should not have any indication that a tender is within. Two or more quotation should not be sent in one cover but the quotation against each tender should be sent separately to avoid confusion. Tender should not be addressed to any individual's name but only by designation.

b) Tenders should be free from **CORRECTION AND ERASURES**. Corrections if any, must be attested. All amounts shall be indicated both in words as well as in figures. Where there is difference between amount quoted in words and figures, amount quoted in words shall prevail.

c) Price should be nett F.O.R despatching station inclusive of risk in transit and remain valid for 60 days from the due date.

d) If any Sales Tax is payable as extra to the quoted price it should be specifically stated in quotations alongwith CST & TNGST No falling which the purchaser will not be liable for payment of Sales Tax. Our T.N.G.S.T No 3560005 Dt. 01-04-1995 CST No. 239383 Dt. 11.6.1991.

e) No revision of prices will be entertained after tenders are opened.

f) Manufacturer's Name, Trade Mark or Patent No. if any should be specified. Illustrative leaflets giving technical particulars are required alongwith quotation wherever necessary.

g) Products with I.S.I Certification marks will be preferred.

h) The purchaser shall be under no obligation to accept the lowest or any other tender and shall be entitled to accept or reject any tender in part or full without assigning any reason whatsoever.

2. **SAMPLES** : Wherever possible, sample should be submitted separately whether specifically requested or not so as to reach the purchaser on or before the due date of the enquiry. They should be clearly marked with the enquiry No and the date on the outside cover to facilitate identification.

3. **PACKING AND MARKING**: The supplier shall arrange for securely protecting and packing the stores to avoid loss or damages during transit.

4. **TERMS OF PAYMENT** : Payment will be made within 45 days of satisfactory receipt of materials at site. Wherever required by the purchaser, the successful tenderer must send the operation and maintenance manuals, test certificates, drawings, etc., for the materials ordered. These should be sent immediately after despatch of the materials and a statement to that effect should be made in the invoice. Failure to comply with this provision will result in delay in payment of the bills. Goods despatched either by V.P.P or by the document presented through bank will not be accepted unless agreed to by the Purchaser.

The duplicate copy of the invoice meant for the transporters should accompany the material as stipulated under C.E. Rules 52A and 173C (or) 57GG. A photostat copy of the above invoice for each delivery challan should be submitted alongwith the original bills routed through bank or submitted directly to BHEL Finance Department.

5. **SECURITY DEPOSIT** : For purchases over Rs. 5,000/- the successful tenderer/s may be requested to furnish a Bank Guarantee. Security Deposit for an appropriate value as may be determined by BHEL.

6. LIQUIDATED DAMAGES/ PENALTY AND INTEREST ON ADVANCES FOR DELAY IN DELIVERY:

If the supplier fails to deliver the raw material / equipment / components within the period specified in the contract the purchaser shall deduct Liquidated Damages a sum equivalent to 0.5 % of the price for each week of delay upto a maximum of 10% of the price of the delayed / undelivered goods. In addition to the recovery of interest at normal cash credit rate plus 2% for the unadjusted portion of the advances. If the delay in delivery of a part contributes to delay in execution of total system, LD and interest on advances will be recovered on the total contract price / total advance paid.

7. **RISK PURCHASE** : Alternatively the purchaser at his option will be entitled to terminate the contract and to purchase elsewhere at the risk and cost of the seller either the whole of the goods or any part which the supplier has failed to deliver or despatch within the time stipulated as aforesaid or if the same were not available, the best and the nearest available substitute therefor. The supplier shall be liable for any loss which the Purchaser may sustain by reason of such risk purchases in addition to penalty at the rate mentioned in clause 6 above.

8. **PREFERENTIAL DELIVERY** : It should be noted if a contract is placed on a higher tenderer as a result of this invitation to tender in preference to the lowest acceptable offer in consideration of the earlier delivery, the seller will be liable to pay to the purchaser the difference between the contract rate and that of the lowest acceptable tender on the basis of final price F.O.R. destination, including all elements of freight, sales tax, duties and other incidents, incidental in case of failure to complete supplies in terms of such contract within the date of delivery specified in the tender and incorporated in the contract.

9. **MODVAT CREDIT** : If any Excise Duty is payable, the chapter head/sub-head reference and the rate of the duty should be quoted. If the tender is availing MODVAT credit for this inputs materials, the effect of proforma credit should be passed on to the purchaser. Tenderer under "MODVAT" shall be preferred.

10. **Purchase** : Preference will be given to CPSUs as per. Government Guidelines.

11. **GENERAL** : The purchaser reserves the right to split up the tender and place order for individual terms with different tenderers and also increase or decrease the quantity.

Any Other conditions which might have been quoted by the Seller and are in contravention to the terms prescribed in the order and which have not been specifically accepted in by Purchaser will not be applicable to the contract.