

SPECIAL CONDITIONS OF CONTRACT

1.0 SCOPE OF WORK

1.1 The **scope of work of the lift contractor** shall include the following.

- i) Design, manufacture, supply, installation, testing and commissioning of passenger lifts along with all accessories / components as per technical specifications and handing over the lifts to Bank.
- ii) **Obtaining pre and post installation approval from lift inspectorate** for operating the lifts.
- iii) Providing all-inclusive comprehensive service including all spares, etc. during warranty period of new lifts and subsequent comprehensive Annual Maintenance Contract for the committed period of 10 years (min.) (at the agreed rate) from the date of handing over of the new lift installation to the bank.
- iv) All engineering equipment, tools, consumables, labour, and permits required to satisfactorily complete installation, testing and commissioning of the lifts
- v) Any other ancillary work, related to but not mentioned above, required for completion of the work and putting the lift in operational condition.
- vi) **Scaffolding necessary** for erection of the lifts
- vii) All minor civil works like cutting, chiseling the walls in the duct and openings, granite flooring of approved shade and material inside the lift car as required for the lift installation and making good to walls and masonry work required, including repairs to plaster etc. will be carried out by the Lift Contractor.
- viii) Machine RS beams and/or MS channels should be of reputed make (Tata, Jindal, SAIL only) for support of lift machinery and oil buffers shall be supplied and erected by the Lift Contractor.
- ix) Full length i.e. from sill to header fascia sheets of appropriate gauge also should be included on all floors including emergency landings which will require additional support for extended lengths to be included in tenderer's scope.
- x) Bulkhead fitting with light point/plug and switches.
- xi) Double copper earthing of appropriate gauge should also be provided from the earth pit.
- xii) Main switches along with MCB'S /ELCB, RCCB of reputed make should also be supplied and included in your scope.
- xiii) Required drawings and documents for submission to lift Inspectorate.

1.2 Items to be provided by the bank.

- i) Earthing pit for each lift
- ii) Main power cable from the panel to the lift. The tenderer should indicate in his tender power requirements of each lift with all relevant brochures/literature etc.

1.3 The tenderer shall carefully check the specifications and shall satisfy himself that the equipment offered is suitable as per the enclosed Technical Specifications.

1.4 The tenderer shall state clearly in his tender the standard tools, spare parts which he will supply free of cost when installing the lifts and handover same to the Bank after completion of the work.

2.0 DRAWINGS, DIMENSIONS AND LEVELS

The successful tenderer shall submit, in duplicate, detailed working drawings and

specifications showing the complete details of the proposed installation. The Contractor will modify the drawing prepared by him wherever the changes are made by SBI and resubmit. He will be held responsible for any discrepancies, errors and omissions in the drawing or particulars submitted by him even if these have been approved by the Bank. The drawings will be scrutinized by the Bank and returned to the tenderer within two weeks of receipt, duly approved or with observations.

All dimensions and levels shown on the drawings shall be verified by the Contractor on the site and he will be held responsible for the accuracy and maintenance of all the dimensions and the levels. In case of discrepancy the Contractor shall ask for clarification before proceeding with the work.

3.0 PACKING AND DESPATCH

The equipment shall be properly and securely packed for multiple handling and transportation by sea / air / rail / road under Indian conditions. All equipment / components shall be delivered on Duty Delivery Paid (DDP) basis at the Bank's site.

4.0 Inspection of materials/work at site

- 4.1 The bank at its discretion may inspect the lift equipment at the manufacturer's works, before despatch of the same to the site. The contractor at his own expense offer all reasonable facilities as may be necessary to confirm that the equipment have been manufactured according to the specifications laid down in the tender. However, all cost towards bank official's travelling, lodging, boarding, if any, would be borne by the bank.
- 4.2 The inspection will cover the following equipment.
- i) Machine/motors.
 - ii) Controllers with VF installed
 - iii) Assembled cabin with panels approved by the bank.
 - iv) Door operating system
 - v) Signal/indicator devices
 - vi) Any other equipment.
- 4.3 The above will, however, not in any way absolve the contractor of his responsibility about proper performance of the system/ components after installation and commissioning at the designated place.
- 4.4 The Bank's officials shall have the power:
- a) Before any equipment or part thereof are submitted for inspection to certify that they or any portion thereof are not in accordance with the contract owing to adoption of any unsatisfactory method of manufacture.
 - b) To reject any equipment or parts submitted as not being in accordance with the specification.
 - c) To reject the whole of the equipment tendered for inspection, if after inspection of such portion thereof as he may in his discretion think fit, he is satisfied that the same is unsatisfactory; and
 - d) To mark the rejected equipment or parts with a rejection mark so that it may easily be identified if re-submitted.
- 4.5 Consequence of rejection:
- If on the equipment or a part thereof, being rejected by the Bank's officials, the contractor fails to make satisfactory supplies or rectify the faulty work thus executed within the stipulated period of delivery/completion period, the Bank shall be at liberty to:
- i) Allow the contractor to re-submit the equipment or parts in replacement of those rejected, within a time to be specified, the contractor bearing the cost of freight if any, on such replacement without being entitled to any extra payments on that account; or

- ii) Purchase/execute or authorise the purchase/execution of quantity/work of the equipment or parts rejected or others of a similar description (when equipment or parts exactly complying with specifications are not, in the opinion of the Bank which shall be final, readily available) to the contractor at his risk and cost and without affecting the contractor's liability as regards supply under the contract; or
- iii) Cancel the contract and purchase/execute or authorise the purchase/execution of the equipment or others of a similar description (when equipment or parts exactly complying with specifications are not in the opinion of the Bank, which shall be final, readily available) at the risk and cost of the contractor. In the event of action being taken under such clause (ii) above or this clause, the provision of delivery clause applies as far as applicable.

4.6 Bank's decision as to rejection final: - The Bank's decision as regards the rejection shall be final and binding on the contractor subject to contractor's appeal.

5.0 COMPLETION PERIOD

5.1 Time allowed for carrying out the work, as mentioned in the tender, shall be strictly observed by the Contractor and it shall be reckoned from the 15th day after written order to commence the work is issued. The successful Contractors have to furnish a detailed Bar Chart indicating all activities like the date of supply of material at site, item wise completion of work etc., and obtain the approval of the Bank. within 15 days from the date of written order to commence the work. The Bar Chart will be used to monitor the progress of the work. The work should proceed with all the due diligence and if the contractor fails to complete the work within the specified period, he shall be liable to pay liquidated damages as defined in "NIT" of the contract.

6.0 Insurance

6.1 The contractor shall take all insurances at his cost to cover all kinds of risks from the time the lift equipment leaves the manufacturer's works till handing over the lifts to the Bank, in the joint names of the Bank and the contractor (Bank's name being first) and it shall cover the following risks.

- Contractor's All Risk Policy (CAR) for 110% of the full contract amount valid from the date of commencement of the contract till actual hand over of the lifts to the Bank.
- Workmen compensation policy for all the workmen of the contractor at site.
- Third party liability policy for a total of Rs.40 lakhs and with a limit of Rs.5 lakhs per accident.
- Fire risk policy.
- Transit Insurance for transportation from manufacturer's works to site (by air/sea/road etc as applicable)

Note: These policies shall be valid till the completion of the entire work. If these policies are not provided by the contractor, the Bank reserves the right to take the above insurance policies themselves and/ or recover the cost thereof from the bill of the contractor.

7.0 Warranty and All-Inclusive Maintenance Contract

The warranty period shall be **12 months** from the date of handing over of the lift.

7.1 The entire equipment shall be guaranteed to be free from defective workmanship or materials and any defects that may appear within the warranty period and the contractor shall make good at his own cost within the time specified. During the warranty period, the contractor shall make periodical inspection of the lifts free of charge at least once a month or earlier, if required, and attend to the lubrication of the various parts and such other service that may be required of him.

7.2 All inclusive Annual Maintenance Contract (AMC)

The tenderer shall quote his rates in rupees per lift per annum for all inclusive Comprehensive Maintenance Contract inclusive cost of spares, labour, transport, insurance, handling (excluding GST) etc. applicable after expiry of warranty period. These rates shall remain firm during the AMC period. The contractor shall furnish an undertaking as per the enclosed proforma that they will maintain the lifts satisfactorily for a minimum period of 10 years from the date of expiry of the defect liability period at the rate quoted by them in this contract towards all-inclusive Annual Maintenance Contract subject to the terms, conditions, scope indicated under scope of service contract.

Note: *The Bank Guarantee submitted by the successful tenderer towards security deposit shall be returned after the contractor enters into agreement for AMC at the quoted rates.*

7.3 Scope of works during AMC

(A) The scope of work shall include the following:

- (i) Routine servicing / troubleshooting / setting / adjustments / cleaning / lubrication / checking of safeties etc. to ensure smooth and trouble-free working of the lifts.
- (ii) Repairs/ replacement to the lifts including re-loading software etc. in the event of any breakdown including replacement of spares / components/ sub-system / cards / motors / ropes or belts and any other component, part or whole, which may need replacement/ repairs.
- (iii) Import of spares and stocking them shall be responsibility of the tenderer. Non-availability of spares / components will not be accepted as a reason for waiving of penalty towards delay in rendering prompt service.
- (iv) All manufacturers preventive maintenance schedules / replacement periodicity of components like ropes, electrical/ electronic parts including checking of safety devices, protections like rope/belt slip, load testing etc. shall be strictly followed as per the manufacturer's periodicity or as required in addition to the scope of maintenance indicated above.
- (v) The scope of maintenance in addition to periodic maintenance will also include attending to /any number of breakdown calls.

(B) Delay in service during warranty and AMC period

During the currency of the Annual Maintenance Service Contract, all care shall be taken so that the downtime of any lift is kept minimum.

They shall also ensure that the required spares etc. for proper maintenance are readily available with them for the complete life span of the lift.

8.0 PROTECTION OF WORK & PROPERTY:

Guarding and protecting hoist way and lift equipment in accordance with the requirement of the Bank and regulations of local authorities, shall be responsibility of the tenderer from the date of commencement of work at site. The Contractor shall install a suitable protective covering like temporary fencing / barricading on all finished floors in areas where the works are being performed. These shall be altered, relocated and adopted from time to time as necessary and removed on completion of the work.

No material handling equipment shall be permitted on or over finished floors unless said floors have been protected in a manner approved by the Bank. Any damage to building finishes caused by the Contractor shall be refinished at no additional cost to the Employer. The Contractor shall take photographs of any adjacent finishes that may be damaged during the works for a photographic record.

9.0 SITE MEETINGS

Site meetings will be held to review the progress and quality evaluation. The Contractor shall depute representative as required to the site meetings and ensure all follow up actions. Any additional review meetings shall be held if required by the Bank.

10.0 DISPOSAL OF REFUSE

It is the responsibility of the Contractor to cart away all debris, refuse etc. arising from the work from the site and properly disposed off at his own cost, as directed by the Bank.

11.0 DISPLAYING THE NAME OF THE WORK

The Contractor shall put up a name board of suitable size as directed by the Bank indicating therein the name of the project and other details as given by the Bank at his own cost and remove the same on completion of work.

12.0 CONFIDENTIALITY

The Contractor shall treat the details of the Contract as private and confidential, except to the extent necessary to carry out obligations under it or to comply with applicable Laws. The Contractor shall indemnify Employer for any loss suffered by them as a result of disclosure of any confidential information. The Contractor shall not publish, permit to be published, or disclose any particulars of the Works in any trade or technical paper or elsewhere without the previous agreement of the Employer.

GENERAL SPECIFICATIONS & OTHER TECHNICAL REQUIREMENTS:

1. General: These specifications are intended to cover the complete installation of the lift with all materials in accordance with the drawings and specifications and with all other requirements unchanged. The contractor must bear in mind that all the work shall be carried out strictly in accordance with the specifications and also in compliance of the requirement of the local public authorities, Lift Inspectorate and any other Acts / Rules / Regulations and no deviation on any account will be permitted.

1.1 Applicable codes

Compliance with Regulatory Agencies: Comply with most stringent applicable provisions of following Codes, laws, and/or Authorities, including most recent amendments in effect.

Codes for Lifts IS-14655 Parts 1, 2, 3, 4 and 5 including all relevant parts, codes of practice and national variations as appropriate.

IS-14671 (1999) Edition or statutory modification thereof amended up to date.

IS-2147 (1962) Edition or statutory modification thereof amended up to date.

IS-2332 (1972) Edition or statutory modification thereof amended up to date.

IS-15330 (2003) Edition or statutory modification thereof amended up to date.

Comply to the requirements of all other Codes, Ordinances and Laws applicable within the governing jurisdiction and latest Indian Standards, as applicable. The Electrical wiring shall strictly comply to IS: 732 and the entire installation shall be in accordance with the Indian Electricity Act 2001 and Indian Electricity Rules 1956 or latest amendments thereof. The Contractor shall arrange to obtain the sanction of the lift authorities for commissioning of the lift and hand-over for operation

1.2 Occupancy and work by others

The Contractor expressly affirms the Client's rights to let other contracts and employ other Trades in connection with the specified work. The Contractor will afford other Trades reasonable opportunity for introduction and storage of materials and equipment for execution of their work, The Contractor will also incorporate comparable provisions

in all its subcontracts.

The Contractor declares that it will cooperate and coordinate their work with other Trades employed by the Client.

2. General Submittals

Within 15 calendar days after award of contract and before beginning equipment fabrication, submit shop drawings and required material samples for review. Allow 10 days for response to initial submittal.

a) Scaled or Fully Dimensioned Layout: Plan of pit, lift well and machine room indicating equipment arrangement and elevation section of lift well. Provide detail drawings of all new equipment provided as part of this specification including car enclosures, landing entrances, and car/landing signal fixtures.

b) Design Information: Indicate equipment lists, reactions, and design information on layouts.

c) Power Confirmation Information designed for existing conditions.

d) Fixtures: Cuts, samples, or shop drawings.

e) Finish Material: Submit samples of actual finished material for review of colour, pattern, and texture. Compliance with other requirements is the exclusive responsibility of the Contractor. Include signal fixtures, lights, graphics, Braille plates, and details of mounting provisions.

f) The submittal review shall not be construed as approval that the submittal is correct or suitable, or that the work represented by the submittal complies with the Specification. Complete compliance with the Specifications, code requirements, dimensions, fit, and interface with other work is the Contractor's responsibility. Acknowledge and/or respond to review comments within 5 calendar days of return. Promptly incorporate required changes due to inaccurate data or incomplete definition so that delivery and installation schedules are not affected. Identify and cloud drawing revisions, including the Contractor elective revisions on each re-submittal. Contractor's revision response time is not justification for delay in equipment delivery or installation.

3. Painting

All exposed metal work furnished in these specifications, except as otherwise specified, shall be properly spray-painted/powder coated with good quality paint at the Lift Contractor's works over an anti-corrosive primer coat and after installations, if defects are found in the paint the same shall be rectified.

4. Site condition inspection

4.01 Prior to beginning installation of equipment, examine lift well and machine room areas. Verify that no irregularities exist which may affect execution of the works specified.

4.02 Do not proceed with the installation until work in place conforms to the project requirements.

5. Product delivery, Storage and handling

5.01 Deliver material in Contractor's original, unopened protective packaging.

5.02 Store material in original protective packaging. Prevent soiling, physical damage, or moisture damage.

5.03 Protect equipment and exposed finishes from damage and stains during transportation, erection, and construction

5.04 Allocate available site storage areas and coordinate their use with Client and other Trades.

5.05 Provide suitable temporary weather-tight storage facilities as may be required for materials that will be stored in the open. No material shall be stored on landings.

6. Installation Requirements

6.01 Install all equipment in accordance with Contractor's instructions, referenced codes, specification and approved submittals.

6.02. Install machine room equipment with clearances in accordance with referenced codes and specification.

6.03 Install all equipment so it may be easily removed for maintenance and repair.

6.04 Install all equipment for ease of maintenance.

6.05 Install all equipment to afford maximum accessibility, safety, and continuity of operation.

6.06 Remove oil, grease, scale, and other foreign matter from the following equipment and apply one coat of field-applied machinery enamel.

a) All exposed equipment and metal work installed as part of this work, which does not have architectural finish.

b) Machine room equipment as required lift well equipment including guide rails, guide rail brackets, and pit equipment.

c) Neatly touch up damaged factory-painted surfaces with original paint colour.

d) Protect machine-finish surfaces against corrosion.

e) Adjacent work areas that adjoin with new equipment installed as part of this specification.

7. Manufacturer's Nameplates

7.01 Manufacturer's nameplates and other identifying markings shall not be affixed on surfaces exposed to public view. This requirement does not apply to code required labels.

7.02 Each major component of mechanical and electrical equipment shall have identification plate with the manufacturer's name, address, model number rating and any other information required by Governing Codes.

8. Colours of factory-finished equipment

8.01 All colours will be selected from the manufacturer's standard range unless custom colours are specified herein.

8.02 Submit samples of all standard finishes available and/or specified custom finishes for review and approval. See Section 2, Submittals

8.03 Submit samples of all specified architectural metals specified for review and approval.

9. Materials and finishes

9.01 Steel: Sheet Steel (Furniture Steel for Exposed Work): Stretcher-levelled, cold-rolled, commercial quality carbon steel.

Sheet Steel (for Unexposed Work): Hot-rolled, commercial quality carbon steel, pickled and oiled.

Structural Steel shapes and plates.

9.02 Stainless Steel: Type 304, with standard tempers and hardness required for fabrication, strength and durability. Apply mechanical finish on fabricated work in the locations shown or specified with texture and reflectivity required to match Architect's sample. Protect with adhesive paper covering.

- Satin: Directional polish finishes. Graining directions as shown or, if not shown, in longest dimension.
- Textured honeycomb Pattern as manufactured by rigidized metals or approved with bright directional polish (satin finish).

Mirror: Reflective polish finish with no visible graining.

9.03 Aluminium: Extrusions plus sheet and plate as per code.

9.04 Paint: Clean exposed metal parts and assemblies of oil, grease, scale, and other foreign matter and factory paint one shop coat of standard rust-resistant primer. After erection, provide one finish coat of industrial enamel paint. Galvanized metal need not be painted.

9.05 Prime Finish: Clean all metal surfaces receiving baked enamel paint finish of oil, grease, and scale. Apply one coat of rust-resistant primer followed by a filler coat over uneven surfaces. Sand smooth and apply final coat of primer.

9.06 Powder Coat Finish: Prime finish as per above. Unless specified, "prime finish" only, apply and bake three (3) additional coats of enamel in the selected solid colour.

9.07 Entrance Field Paint: Clean all surfaces of dirt and grease. Sand and finish surfaces as necessary to remove pits and scratches and prepare surface for painting. Apply filler to ensure smooth surface, sand and apply two coats of sprayed on cellulose paint finish in the selected solid colour.

9.08 Refinishing of natural metals: Remove existing protective finish. Buff as necessary to remove scratches. Re-grain or finish as specified and protect as indicated for particular metal type.

10. Maintenance

10.01 Use competent personnel, acceptable to the Client, employed and supervised by the Contractor.

10.02 Warranty maintenance:

- The lift contractor shall guarantee that the materials and workmanship of the equipment installed by him under these specifications shall be first class in every respect. He will make good at his own cost any defects which may develop within one year from the date of commissioning of the installation, ordinary wear and tear and improper use expected. This clause does not preclude any remedy the client may have for latent defects.
- Defective is defined to include operation or control system failures, car performance below required minimum, excessive wear, unusual deterioration or aging of materials or finishes, unsafe conditions, the need for excessive maintenance, abnormal noise or vibration and similar unsatisfactory conditions.
- Provide preventive maintenance and 24-hour emergency call-back service for one year commencing on date of final acceptance by client. Systematically examine, adjust, clean, and lubricate all equipment. Repair or replace defective parts using parts produced by the manufacturer of installed equipment. Maintain lift machine room, lift shaft, and pit in clean condition.
- Make modifications and adjustments to meet performance requirements specified

herein.

10.03 Contract preventive maintenance:

Quote yearly cost for annual maintenance agreement commencing upon completion of the warranty period specified in Item 10.02 above. Base maintenance cost upon terms and conditions of the Contractors fully comprehensive preventive maintenance agreement, including call outs at no additional cost to the Employer during the building's operating hours.

11.1 Technical specifications of the proposed Hostel Lifts 1 and 2 Data Sheet:

1	Capacity	20 passengers (1360 kgs)
2	Speed	1.00 Meter Per Second
3	Travel	13.2 M Approx (G + 3)
4	Stops & openings	4 stops / 4 openings. <i>All openings are on the same side</i>
5	Drive	PMSM Gearless drive having closed loop
6	Control	Full collective control <i>Duplex</i> line separate with & without attendant.
7	Machine room	Machine Room Less (MRL)
8	Power supply	AC 415 V +/-10%, 50 Hz +/- 3%
9	Car & landing Door operation	Automatic VF or DC Door operating with closed loop
10	Car door	Centre Opening – Automatic in Brushed Stainless-steel finish having clear opening of 1200 mm x 2100 mm internal height
11	Landing Door	Centre Opening – Automatic in Brushed Stainless-steel Finish on all floors with 2 hours fire rating having clear opening of 1200 mm x 2100 mm
12	Car	Provide new Car as under: Side walls: Brushed stainless steel SUS304 (ST4) Rear wall: Brushed stainless steel SUS304 (ST4) Front wall: Brushed stainless steel SUS304 (ST4) Handrail on all 3 sides: Tube D38 w/ rounded ends (HR64) Silver brushed stainless steel Direct lighting LED in Brushed stainless-steel ceiling Adequate Ventilation with ceiling mounted blowers Flooring with approved shade / make of 20 mm thick granite flooring as approved by Bank.
13	Car Size	2050 mm wide x 1500 mm deep x 2300 mm clear height
14	On all landing & ground floor lobby	1. Two risers Duplex type Luminous Hall Buttons with braille markings combined with LCD type floor indicators to stop lift in both directions on each operating floor except on terminal landings (one direction button) 2. Hall lanterns (Audio – visual) on all floors
15	In Car	Car operating Panel (2 nos) equipped with the following: 1. Auto / Manual selector key switch 2. Fan switch (in addition to fan auto control) 3. UP & Down buttons with braille markings for attendant operation 4. Luminous floor selector buttons with braille markings. 5. Overload warning device with annunciation (lift should not take a start under overload condition) 6. Alarm button in lobby

		7. 5.6 "LCD car position and direction indicator in COP 8. Emergency LED light with SMF battery back up 9) 3way Intercom system with common instrument at security desk including laying of cable Notes: a) Faceplates of operating fixtures in Stainless steel finish should match the landing door finish b) Provision for separate cables only for CCTV (camera and other accessories by bank). Bidder to assist in fixing camera during installation
16	Hoist way available	3045 mm wide x 2540 mm deep
17	Pit depth	1800 mm
18	Announcement system	Floor announcement in English language with music.
19	Head room height	4200 mm (from the top floor)
20	Safety Gear:	Provide New safety gear
21	Guide Rails:	Provide New Car and Counterweight Guide Rails including guide shoes etc.
22	Buffers:	Provide new Hydraulic Buffers as per manufacturer's standard
23	ARD	Automatic Rescue Device with announcement and capable of moving the lift to the nearest landing in case of 1 phase or 3 phase main power failure shall be provided in all lifts.

11.2 Class room Lift Data Sheet:

1	Capacity	15 passengers (1020 kgs)
2	Speed	1.00 Meter Per Second
3	Travel	13.2 M Approx (G + 2)
4	Stops & openings	3 stops / 3 openings. <i>All openings are on the same side</i>
5	Drive	PMSM Gearless drive having closed loop
6	Control	Full collective control <i>Simplex</i> with & without attendant.
7	Machine room	Machine Room Less (MRL)
8	Power supply	AC 415 V +/-10%, 50 Hz +/- 3%
9	Car & landing Door operation	Automatic VF or DC Door operating with closed loop
10	Car door	Centre Opening – Automatic in Brushed Stainless-steel finish having clear opening of 900 mm x 2100 mm internal height
11	Landing Door	Centre Opening – Automatic in Brushed Stainless-steel Finish on all floors with 2 hours fire rating having clear opening of 900 mm x 2100 mm
12	Car	Provide new Car as under: Side walls: Brushed stainless steel SUS304 (ST4) Rear wall: TRANSPARENT GLASS (SCENIC TYPE) Front wall: Brushed stainless steel SUS304 (ST4) Handrail on 2 sides: Tube D38 w/ rounded ends (HR64) Silver brushed stainless steel Direct lighting LED in Brushed stainless steel ceiling Adequate Ventilation with ceiling mounted blowers Flooring with approved shade / make of 20 mm thick granite

		flooring as approved by Bank. Please indicate amount of provision made in covering letter.
13	Car Size	1500 mm wide x 1600 mm deep x 2300 mm clear height
14	On all landing & ground floor lobby	1. Luminous Hall Buttons with braille markings combined with LCD type floor indicators to stop lift in both directions on each operating floor except on terminal landings (one direction button) 2. Hall lanterns (Audio – visual) on all floors
15	In Car	Car operating Panel (2 nos) equipped with the following: 1. Auto / Manual selector key switch 2. Fan switch (in addition to fan auto control) 3. UP & Down buttons with braille markings for attendant operation 4. Luminous floor selector buttons with braille markings. 5. Overload warning device with annunciation (lift should not take a start under overload condition) 6. Alarm button in lobby 7. 5.6“ LCD car position and direction indicator in COP 8. Emergency LED light with SMF battery back up 9) 3way Intercom system with common instrument at security desk including laying of cable Notes: a) Faceplates of operating fixtures in Stainless steel finish should match the landing door finish b) Provision for separate cables only for CCTV (camera and other accessories by bank). Bidder to assist in fixing camera during installation
16	Hoist way available	2040 mm wide x 1915 mm deep
17	Pit depth	1800 mm
18	Announcement system	Floor announcement in English, language with music.
19	Head room height	4200 mm (from the top floor)
20	Safety Gear:	Provide New safety gear
21	Guide Rails:	Provide New Car and Counterweight Guide Rails including guide shoes etc.
22	Buffers:	Provide new Hydraulic Buffers as per manufacturer's standard
23	ARD	Automatic Rescue Device with announcement and capable of moving the lift to the nearest landing in case of 1 phase or 3 phase main power failure shall be provided in all lifts.

Special Requirement:

Visually impaired should have audio visual signals such as Hall lanterns and braille buttons in car and landings to suit their requirement.

11.3 Standard Features

- a) Advance Door Opening
- b) Automatic Car Return
- c) Home Landing
- d) Current Harmonic Filter
- e) DCB Faster response

- f) Failure Auto Diagnose
- g) Intercommunication unit
- h) Infra-red door detector 150 beams
- i) Reverse Phase Relay
- j) Load Non-Stop
- k) Nudging Door
- l) Overload Device (Car)
- m) Re-levelling
- n) Top of car Inspection
- o) Motor Thermic Device
- p) Anti-Nuisance Operation
- q) Automatic Return Device
- r) Attendant Operation / Independent operation
- s) BA interface
- t) Car Arrival Chime
- u) Car Call Cancellation
- v) Emergency Fireman Operation (Automatic Return to Lobby)

Intercommunication (ICU)

- Used to achieve the communication between car and security / control room.
- Hardware consists of a common instrument in security desk, and hands free 2way speaker facility built in the Car operating panel in car.
- ICU consists of: Intercommunication Unit (Car to Control Room), hardware provided is host interphone at control room.

Performance characteristics

Minimum guaranteed performance of the lifts:

- Car Speed: $\pm 3\%$ of contract speed under any loading condition.
- Car Brake Capacity: Should be capable of preventing the lift car from movement with 120 % of rated load, with the lift car at rest.
- Car Stopping Zone: ± 5 mm under any loading condition.

Car Ride Quality:

1. Horizontal & Vertical vibration should be in conformity with industry/ manufacturer's standard and to be supported by relevant test certificates and shall be verified with required monitoring/testing instrument at site before handing over.
2. Acceleration and Deceleration: the controller should provide for smooth acceleration and deceleration without any perceivable jerks

Solid State Power Conversion and Regulation Unit:

Provide alternating current, variable voltage, variable frequency (ACVVVF), I.G.B.T. converter and inverter drives for ACVVVF Gearless machines as per manufacturer's standard. Regenerative drives if available will be preferred. Design unit to limit current, suppress noise, and prevent transient voltage feedback into building power supply. Provide internal heat sink cooling fans for the power drive portion of the converter panels. Conform to IEE standards for line harmonics and switching noise.

Isolate unit to minimise noise and vibration transmission

Encoder: Direct drive, solid-state, digital type. Update car position at each floor and automatically restore after power loss.

Controller:

Compartment: Securely mount all assemblies, power supplies, chassis switches, relays,

etc., on a substantial, self-supporting steel frame. Completely enclose equipment with covers. Provide means to prevent overheating. The components should conform to manufacturers standard specifications.

Wiring: Labelled copper wire for factory wiring. Neatly route all wiring interconnections and securely attach wiring connections to studs or terminals.

Permanently mark components (relays, fuses, PC boards, etc.) with symbols shown on wiring diagrams.

The controller should have provision to be connected to an elevator management system to monitor the performance of the lifts.

Governor: Provide new over speed governor. Tripping of the safety gear shall be adjusted to 120 percent of the rated speed.

Noise/Vibration Isolation: All lift equipment including their supports and fastenings to building, shall be mechanically isolated from the building structure to minimise objectionable noise and vibration transmission to car, building structure, or adjacent occupied areas of building.

Sound Isolation:

Noise level relating to lift equipment operation shall not exceed 75 db. All db readings shall be taken one metre off the floor and one metre from equipment.

11.4 LIFT WELL EQUIPMENT

Guide Rails: Provide new, machined steel T-sections for car and hollow metal for counterweight of suitable size and weight for the application as per standard manufacturer's specifications, including brackets for attachment to building structure.

Buffers, Car and Counterweight: Provide new Oil type with blocking and support channels.

Diverter or Secondary Sheaves: Provide new sheaves with machined grooves and sealed bearings. Provide mounting means to machine beams, machine bedplate, car and counterweight structural members, or building structure.

Counterweight: Provide new counterweight with steel frame with metal or concrete filler weights and sliding guides.

Governor pit tensioning sheaves: Provide new and mount sheaves and support frame on pit floor or guide rail. Provide frame with guides or pivot point to enable free vertical movement and proper tension of rope/belt and tape. Provide sheave guard and electrical safety switch. Provide inside pit, a ladder made out of Aluminium extruded sections for maintenance of pit equipment and pit cleaning

Hoist Ropes / Belts and Governor Ropes: Provide New

Traction steel type to suit machine manufacturer's requirement. Fasten with staggered length, adjustable, spring isolated wedge type shackles.

Terminal Stopping: Provide normal and final devices.

11.5 Electrical Wiring and Wiring Connections:

Conductors and Connections: Copper throughout with individual wires coded and connections on identified studs or terminal blocks. All wiring shall be run in containment. Use no splices or similar connections in wiring except at terminal blocks, control compartments, or junction boxes. Provide 10% spare conductors throughout. Run spare wires from car connection points to individual lift controllers in the machine room. Provide four pairs of spare shielded communication wires in addition to those required to connect specified items. Tag spares in machine room.

Travelling Cables: Flame and moisture-resistant outer cover. Prevent travelling cable from rubbing or chafing against lift well or equipment within lift well.

All insulated conductors & conduit or tubing as well as fittings including boxes, trough and ducts shall comply with the requirements of relevant IS specification or BS specifications.

Entrance Equipment: Provide the following new equipment:

- Door Hangers.
- Door Tracks
- Door Interlocks.
- Door Closers.
- Facia plates wherever necessary should be full length (i.e from upper sill to top of header) unless bidder is providing car door lock

11.6 LIFT WELL ENTRANCES

Landing doors: Provide as specified

Sills: Provide new sills manufactured of extruded aluminium.

11.7 CAR EQUIPMENT

Car Sling: Provide new with welded or bolted, rolled or formed steel channel construction.

Safety Gear: Provide new governor actuated safety properly affixed to underside of car platform.

Platform: Provide new, isolated type, constructed of steel, which are fireproofed on underside.

Guide Shoes: Provide new sliding shoes.

Car Sills: Provide new aluminium car sill manufactured with onepiece extrusion.

Car Doors: Provide as specified

Car Operating Panel :

One (1) new car operating panel with # 4 stainless steel faceplate.

Suitably identify and locate floor buttons, alarm button, in accordance with statutory requirements. Height of COP should be such that the lower buttons should be easily accessible.

Provide alarm button to ring bell located on car and actuate two-way communication systems.

Car Top Control Station: Mount in location to provide safe access and utilisation while standing in an upright position on car top.

Communication System:

Provide a two-way communication hands free unit in car with automatic dialling, actuated by pressing the alarm bell button.

CAR ENCLOSURE

Passenger Lift Car Enclosure: Provide new and complete as specified herein. Provide the following features:

Shell, Canopy: steel formed panels as per manufacturer's standard specifications with baked enamel interior finish as selected.

Front Return Panels and Integral Entrance Columns, Transom and Interior Wall Finish: combination of stainless-steel Mirror / etched / honeycomb / linen or equivalent finish, as approved by the Employer

Base: Approved shade of minimum 20 mm thick granite slab with design and inlays as

approved by the bank

Ventilation: Blowers of adequate CFM, mounted to car canopy on isolated rubber grommets.

Lighting: Recessed type LED fixtures of reputed make.

Suspended Ceiling: Hairline Finish stainless steel

LANDING CONTROL STATIONS

Pushbuttons: Provide 2 nos. risers at each floor with flush mounted stainless steel faceplates. Include push buttons for each direction of travel, which illuminate to indicate call registration. Provide any cutting and patching required.

SIGNALS

Position Indicators: Provide LCD type floor position indicators at each entrance as per manufacturer's standard specifications, as approved by the Bank.

Hall Lanterns: Provide vertical audio – visual hall lanterns on all floors.

Car Position Indicator: Provide inside car 5.6" LCD screen containing date, time, floor designations / directory and direction arrows to indicate floor served and direction of car travel. When a car leaves or passes a floor, illuminate indication-representing position of car in lift well.

Faceplate Material and Finish: Stainless steel in matt / mirror finish on all floors.

Building Management System

Vendors to provide potential free contacts on control systems for Fire service, emergency power, floor indications etc.

11.08 EXECUTION

At the time of execution successful tenderer has to provide required scaffolding in the shaft. Allied civil work like puncturing wall / ceiling, removing & repairing of plaster, white wash to lift shaft will be in scope of tenderer.

Bank will provide open storage space in the premises for storage of materials. Locking and responsibility of the materials will lie with the tenderer.

11.09 FIELD QUALITY CONTROL

Work at jobsite will be checked during course of installation. Full cooperation with reviewing personnel is mandatory. Accomplish corrective work required prior to performing further installation.

11.10 ADJUSTMENTS

Install rails plumb and align vertically. Secure joints without gaps and file any irregularities to a smooth surface. Static balance car to equalise pressure of guide shoes on guide rails. Lubricate all equipment in accordance with manufacturer's instructions. Adjust motors, power conversion units, brakes, controllers, levelling switches, limit switches, stopping switches, door operators, interlocks, and safety devices to achieve required performance levels.

The lift shall be protected as follows.

- (a) Electrically against overload
- (b) By safety gear on car so that in the event of rope breaking or loosening, the car will be brought to rest immediately.
- (c) By car and landing door locks so that in the event of any door kept opened, the lift will not start.
- (d) By speed governor operating on the control circuit and applying the brakes in case of over-speeding of car in any direction.

- (e) By means of over travel limit switches in both downward and upward direction.
- (f) By means of a phase reversal relay.
- (g) By means of a single phasing relay.
- (h) By a device that ensures that the brakes apply as soon as a single phasing occurs or when the drive fails to start for whatever reason.
- (i) By means of suitable type and capacity buffers in the lift pit.
- (j) The car and landing door shall not open when the lift car is not within the levelling zone.
- (k) Any other safety device as per the statutory requirements.

12. Before handing over the lift the following tests shall be conducted on the lift installation. The lift will not be taken over unless all the test results conform to the specifications.

(a) The lift will be loaded for its full capacity and the following will be tested in both directions of travel.

- (i) Speed
- (ii) Levelling at all landings

(b) The lift will be kept empty, and the following will be tested in both directions of travel.

- (i) Speed
- (ii) Levelling at all landings

(c) All protection and safety devices shall be tested for its proper functioning.

(d) Overload safety– No start and overload annunciation.

(e) Insulation resistance and earthing continuity testing.

(f) Voice annunciation system

(g) Emergency alarm and Three way communication system

(h) ARD function test and inverter back up for light and fan/blower.

(i) Controller function test (Test certificates may be submitted)

(j) Any other safety device as per the statutory requirements

13. Test Certificates

Test Certificates for Machine, Motor, Oil Buffers, Controller, VF Drive, Hoist Ropes, Governor Rope, governor, travelling cables, and Two (2) hours fire rating for landing doors should be furnished for all elevators.

SAFETY GUIDELINES FOR THE CONTRACTOR:

The Contractor should strictly adhere to the following General safety Guidelines while executing the work:

1. Smoking is strictly prohibited at workplace.
2. No one is allowed to work at or more than three meters height without wearing safety belt and anchoring the lanyard of safety belt to firm support preferably at shoulder level. Chinstrap of safety helmet shall be always on and safety boot is worn.
3. Usage of eye protection equipment shall be ensured when workmen are engaged for grinding, chipping, welding and gas-cutting. For other jobs eye protection has to be provided as per the need.
4. All safety appliances like Safety shoes, Safety gloves, Safety helmet, Safety belt, Safety goggles etc. shall be arranged before starting the job.
5. Excavated pits for earthing, cable laying shall be barricaded till the backfilling is done.

Safe approach to be ensured into every excavation.

6. Preferably the work shall be carried out during the daytime. However, adequate illumination at workplace shall be ensured in case any work is carried out at night.

7. Suitable and strong scaffolds should be provided for workmen for all works that cannot safely be done from the ground.

8. All the dangerous moving parts of the portable / fixed machinery being used shall be adequately guarded.

9. Ladders being used at site shall be adequately secured at bottom and top. Ladders shall not be used as work platforms.

10. Debris, scrap and other materials to be cleared from time to time from the workplace and at the time of closing of work everyday. Dismantled Material shall not be thrown from the height and shall be properly disposed off to prevent any injury to public/staff.

11. Other than electricians no one is allowed to carry out electrical connections, repairs on electrical equipment or other jobs related thereto.

12. All electrical connections shall be made using 3 or 5 core cables, having a earth wire.

13. Inserting of bare wires for tapping the power from electrical sockets is completely prohibited and plug tops of suitable capacity only shall be used.

14. All the unsafe conditions, unsafe acts identified by contractors, reported by SBI to be corrected on priority basis.

15. No children or physically challenged persons shall be allowed to enter the workplace and shall not be utilized for any service during execution of the work.

16. All the Gas cutting, sharp tools, flammable materials and tackles shall be stored properly and safely when not in use.

17. Clamps shall be used on Return cables to ensure proper earthing for welding works.

18. Return cables shall be used for earthing.

19. All the pressure gauges used in gas cutting apparatus shall be in good working condition and in case of any leakages, the same shall not be used.

20. Proper eye washing facilities shall be made in areas where chemicals are handled.

21. Connectors and hose clamps are used for making welding hose connections.

22. Tapping of power by cutting electric cables in between must be avoided.

23. Proper junction boxes must be used.

24. First aid appliances including adequate supply of sterilized dressing and cotton wool shall be kept in a readily accessible place.

25. An injured person shall be taken to a public hospital without loss of time, in cases where the injury necessitates hospitalization.

26. No portable single ladder shall be over 8 meters in length. The width between the side rails shall not be less than 30 cm. (clear) and the distance between two adjacent rungs shall not be more than 30 cm. When a ladder is used an extra mazdoor shall be engaged for holding ladder.

27. The excavated material shall not be placed within 1.5 meters of the edge of the trench or half of the depth of trench whichever is more. All trenches and excavations shall be provided with necessary fencing and lighting.

28. Every opening in the floor of a building or in a working platform is provided with

suitable means to prevent the fall of persons or materials by providing suitable fencing or railing whose minimum height shall be one metre.

29. No floor, roof or other part of the structure shall be so overloaded with debris or materials as to render it unsafe.
30. Workers employed on mixing and handling material such as asphalt, cement mortar or concrete and lime mortar shall be provided with protective footwear and rubber hand-gloves.
31. No paint containing lead or lead products shall be used except in the form of paste or readymade paint. Suitable masks should be supplied for use by the workers when paint is applied in the form of spray or surface having lead paint is dry scrubbed
32. Hoisting machines and tackle used in the works, including their attachments, anchorage and supports shall be in perfect condition.
33. The ropes used in hoisting or lowering material or as a means of suspension shall be of durable quality and adequate strength and free from defects
34. Those engaged in welding works shall be provided with welder's protective eye-shields and gloves.

FIRE SAFETY

- i. Cutting / drilling machine and other electrically operated equipment used at site shall be plugged into correctly rated electrical outlets.
- ii. Only ISI marked 3 pin plug and other appliances and equipment shall be used.
- iii. Electrical power cables/wires used shall not have any joints and shall be properly rated.
- iv. All electrical appliances i.e. welding, drilling, cutting machine etc. shall be safely and securely earthed to prevent leakage current while in operation.
- v. Before commencing the welding work, fire section shall be informed and required precautions should be taken.
- vi. Two buckets of water, sand and a fire cloth of suitable size shall be kept in an easily accessible area on the site.
- vii. Fire extinguishers recommended by fire officers shall be kept on the site.
- viii. Used paint drums shall be stored in specified store only after closing them properly.
- ix. Personal protective equipment such as safety shoes, hand gloves, welder's mask, ear plug etc. depending upon the requirement of the work shall be provided by the contractor to the workmen to prevent occupational health hazards.
- x. None of the passages near lift lobby and staircases shall be used for stacking / dumping any kind of materials/waste.
- xi. Any debris/ waste generated from the work shall be collected on daily basis, removed from site and stored at the designated place in proper manner.
- xii. Battery operated emergency light/torches shall be provided by the contractor to the workmen while working beyond office hours.

READ, UNDERSTOOD AND ACCEPTED