National Telecom

NATIONAL TELECOMMUNICATION CORPORATION

REGIONAL HEADQUARTERS BUILDING
6- RACE COURSE ROAD LAHORE

Bidding Documents

Supply, Installation, Testing and Commissioning of 2xCapsule Type Lifts at NTC Regional HQ Building Lahore on DDP Site Basis

Tender Notice # DNTC/20-D(b)/2023-24/

Table of Contents

INSTRUCTIONS TO THE BIDDERS

1 INVITATION TO e-BIDS

Tender Notice No. DNTC/20-D(b)/2023-24/

National Telecommunication Corporation (NTC), invites electronic bids from the reputable firms, registered with PEC category C-5, Income Tax and Sales Tax, Punjab Sales Tax (PST) having relevant experience:

Tender No.	Description of Service	Last Date & Time of Bid Submission	Bid Opening Date & Time
1	Supply, Installation, Testing and Commissioning of 2xCapsule Type Lifts at NTC Regional HQ Building Lahore on DDP Site Basis	20-05-2026 @ 1100 Hrs.	20-05-2026 @ 1130 Hrs.

Bidding documents as per regulations, containing detailed terms and conditions, specifications and requirements etc. are available for the registered bidders on EPADS at (www.eprocure.gov.pk).

CDR / Pay Order of fixed amount @ PKR Rs. 1,100,000.00 as earnest money against above mentioned work in the favor of Director NTC Lahore must be submitted.

Electronic bids must be submitted through EPADS on or before the bid closing date and time, as specified in the table. Manual bids will not be accepted. Electronic bids will be opened on the same day, at least 30 minutes after the bid closing time, as indicated in the table.

Note: Notification of the GRC constituted in terms of Rule-48 of PPRA rules, 2004 is provided on EPADS at www.eprocure.gov.pk and on www.ntc.net.pk.

Director NTC Lahore
NTC Regional Office Building, 6-Race Course Road Lahore
Phone: 042-99201235, 99203344 **Fax:** 042-99201236
www.ntc.net.pk

GENERAL

2. Introduction

2.1 National Telecommunication Corporation was established in January 1, 1996 under Telecommunication (Re-organization) Act 1996 with a definite mandate to provide basic telecommunication services to Federal & Provincial Governments, their attached departments, autonomous organizations and defense services throughout the country.

2.2 NTC desires to execute work regarding Supply, Installation, Testing and Commissioning of 2x Capsule Type Lifts at NTC Regional HQ Building Lahore DDP Site Basis

2.3 Complete technical specifications are attached as Annex "B" to Annex-"C".

3. Scope of Work

The bidder shall consider following points while quoting for the solution:

Following lift work are required for NTC Regional headquarter Building, 6-Race Course Road Lahore.

a) Supply and Installation of two (02) passenger Elevators capsule type, 600-800 Kg, 6 persons capacity serving two basements, Ground plus three floors.

b) The scope of work shall cover design, supply installation, testing and commissioning of entire lift equipment including hoisting machinery, sheaves and girders, controller, car ropes, counterweights, supports, brackets and guides for car and counterweights, car gears, buffers, pit screens, well trimming girders ,pit access ladder, trap door and such related accessories complete in all respects as specified herein. The Contractor shall also furnish all labour, erection equipment (i.e. winches, scaffolding and all kinds of civil work), erection tools, appurtenances, embedded parts and materials etc. necessary to supply, install, test and commission the lift all in perfect operating condition in accordance with these Specifications and Drawings.

c) The Contractor shall submit design drawings within two weeks after award of work for approval of Engineer. The drawings must show final arrangement of equipment, dynamic and static loads imposed on the building, openings, location of embedded parts etc. wiring and control logic diagrams.

d) The Contractor shall provide and install, from designated electrical power supply points, all required cabling, distribution boards and accessories without cost to the Employer.

e) The Contractor shall operate (8 hours basis) and maintain the works during the defect liability period. In addition to routine periodic maintenance, the Contractor shall execute all such work of repair, rectification, parts replacement and making good defects occurring during this period. The cost of operation and maintenance shall be included in rates quoted in Schedule of Prices. Design of equipment to be supplied by the Contractor shall also be the responsibility of the Contractor and/or his suppliers.

f) The Contractor shall also provide training to the staff of Employer regarding operation and maintenance of the equipment at least for three months.

g) Prior to substantial completion date, the Contractor shall submit 3 copies of Operating and Maintenance Manuals to the Employer/Engineer in-charge.

4. ELIGIBILITY CONDITIONS OF BIDDERS

Invitation to submission of sealed bids/proposals is open to all OEM's (Original Equipment Manufacturers) & their authorized dealers in Pakistan who meet following minimum conditions:

4.1 Duly licensed by the Pakistan Engineering Council (PEC) in relevant category in C-5 (M-03 Code).

4.2 Registered with taxation departments of Pakistan as active taxpayers (GST, PST & Income Tax) & have registered office in Pakistan.

4.3 The dealer / vendor /partner must be duly authorized by OEM & provide valid authorization certificate.

4.4 Must have relevant experience of 15 x years for supply, installation, testing and commissioning of lift(s) in multi-story buildings. In order to evaluate the relevant experience, the bidder shall provide the detail of its completed works with completion certificates. Moreover the information must contain description of contracts, completed work & contact persons for reference. All such documentation must be provided with the bid to support the relevant experience. Deficient bids in this regard will be rejected. Only those works relevant to the scope of work shall be considered for evaluation.

4.5 The manufacturer must have at least 10 x years' experience in producing offered good/lifts in their plant and such goods/lifts have proven record of atleast 05 x years of successful operation in the field.

4.6 The prospective bidder shall have presence in Pakistan, and have enough manpower capable for rendering pre-sales & post-sales service.

4.7 Financial statements for last three years to be provided enunciating the financial health of the firm capable of undertaking such projects. The bidding firm must have annual sale of PKR 10 Million or above.

4.8 Never been involved in litigation with any government/semi-government organization. The bidder must furnish undertaking on judicial paper (Rs. 100/-) to this effect.

4.9 Never been blacklisted from any govt/semi-govt organization. The bidder must furnish undertaking on judicial paper (Rs. 100/-) to this effect.

4.10 Certificate on Judicial Paper (Rs.100/-) that the spares of the same will be available in Pakistan at reasonable price for a period of at-least 05 x Years without any major up-gradation / version change.

4.11 Bidders shall quote the prices in **Pak Rupees** on DDP destination site basis, as per NTC provided format for price quotation, covering all applicable taxes/duties.

Note: Bidder must submit documentary proof against serial no. (4.1-4.11). All above condition are mandatory for a bidder to be considered for further evaluation proceedings. If any firm found non-compliant in any of above mentioned conditions then it will be dis-qualified in the initial stage & will not be considered for further evaluation proceedings.

5. COST OF TENDERING

The bidder shall bear all costs associated with the preparation and submission of its bid and the NTC will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

6. CLARIFICATIONS OF TENDER DOCUMENTS

A prospective bidder requiring any clarification(s) regarding technical & commercial aspect of bidding documents may notify to Director NTC Lahore (Contact No: 042-99201235 & 042-33203344, Email : mohammad.saeed@ntc.org.pk). The concerned NTC officer will respond to any request for clarification, which receives well before (approximate 05 working days or more) to the deadline for the submission of bids. Copies of NTC response will be forwarded to all prospective bidders (if not already clarified in the tender or deemed necessary for the bidder).

7. AMENDMENT OF TENDER DOCUMENTS

7.1 At any time prior to the deadline for submission of bids, the NTC may, for any reason, whether at his own initiative or in response to a clarification requested by a prospective bidder, modify the bidding documents by issuing addendum/amendment.

7.2 Any addendum/amendment thus issued shall be part of the bidding documents.

8. SPECIFICATIONS

The bidder shall responsible to provide the equipment as per technical specification at Annex-B and Annex-C, in case of conflicting specifications appearing in the documents, decision of NTC will be final and strict version will hold good.

9. PREPARATION OF BID

9.1 Bid should be prepared in accordance with "Single Stage- Single Envelope" procedure.

a. The envelope shall clearly mention the name of bidder & necessary information in bold & legible letters to avoid any confusion.
b. Bid documents and all correspondence will be in English language.
c. The bid should have a covering letter on letter pad of the firm. All pages of the bid shall be initialed/signed and official seal be affixed by the person(s) authorized to sign. In addition, all the pages of the submitted bid must be numbered. Complete bid shall be scanned and uploaded on EPADS.

9.2 Following documents shall be submitted with the proposal:

a. Duly filled Bill of Quantity as per **Annex-A.**
b. Duly filled Technical Compliance as per **Annex-B.**
c. Duly filled commercial compliance statement as per **Annex-E.**
d. Valid Tender security.
e. Documentary evidence and Certificates as per Qualification Criteria.
f. Company Profile.
g. All required documentation as per clause-4.
h. Technical brochures of offered/quoted equipment.
i. Bid security (fixed amount @ PKR Rs. 1,100,000.00).
j. Valid certificate of authorization from the OEM.
k. Connectivity diagram of the offered solution.
l. Bid security will be returned after issuance of work order.

NOTE: ***Every participant bidder shall submit all above mentioned documents and samples. Non-submission of any of above documents or samples at the time of bid opening will lead to declaration of bidder as non-responsive & non-consideration for further evaluation.***

9.3 Prices against each item of BoM shall be quoted. If price of any item is not quoted even mistakenly then price of that item shall be deemed included in the total price of the solution & bidder will be bound to provide the same free of cost.

10. LANGUAGE OF BID DOCUMENTS

10.1 Bid documents and all correspondence will be in English language.

10.2 The bid should have a covering letter on printed letter pad of the firm. All pages of the bid shall be initialed/signed and official seal be affixed by the person(s) authorized to sign.

11. PRICE

11.1 Prices should be quoted in Pak Rupees on DDP (Delivered Duty Paid) site basis as per **BoQ**, involving supply, installation, testing and commissioning.

11.2 The price should be inclusive of all installation material (if any).

11.3 The price quoted should be firm, final, and clearly written/typed without any ambiguity throughout the period of validity.

11.4 The price should include all the applicable government taxes, duties, freight etc & all taxes, duties should be separately mentioned.

11.5 The rates / prices shall be entered against each item in the Bill of Quantity (BOQ). Any item against which no rate or price is entered and left blank by the bidder shall be deemed covered by the rates / prices for other items in the BOM. However for the purpose of financial comparison, price of highest bidder against that particular item will be taken as reference.

11.6 The bidder shall be deemed to have obtained all information as to all the requirements thereto which may affect the bid price.

12. BID SECURITY

12.1 The bidder shall furnish bid security @ PKR Rs. 1,100,000.00 in the form of Bank Draft, Pay Order or a Bank guarantee issued by a scheduled bank of Pakistan / First class foreign bank in favor of NTC.

12.2 Any bid not accompanied by tender security shall be rejected by the NTC as non-responsive.

12.3 The bid securities of the unsuccessful bidders will be returned upon award of contract to the successful bidder or on expiry of validity of bid security whichever is earlier. The tender securities of bidders, who are not in competition, can be returned earlier at NTC discretion upon receiving a request.

12.4 The bid security of the successful bidder will be returned when the bidder has furnished the required Performance Security and signed contract agreement.

12.5 All correspondence regarding release/extension of bid security shall be made with Director NTC Lahore.

12.6 The bid security may be forfeited:

i. If a bidder withdraws his bid during the period of bid validity.
ii. If the bidder does not accept the correction of his bid price.
iii. In the case of successful bidder, if he fails to furnish the required performance security or sign the contract agreement.
iv. If bidder does not respond to clarifications called by NTC.

13. VALIDITY OF BIDS

Bid shall remain valid for a period of **180** days from the date of bid opening.

14. DEADLINE FOR SUBMISSION OF BID

14.1 The bid shall be uploaded in PDF format on PPRA EPADS website i.e. www.eprocure.gov.pk on or before 11: 00 hours on dated 20-05-2026.

14.2 The bidders are required to follow procedure of EPADS and for any clarification/assistance regarding EPADS they may contact PPRA Helpline UAN: 051-111-137-237.

14.3 No open, e-mailed or faxed bid will be accepted.

14.4 Bid received other than EPADS i.e. hard/Soft copy delivery in person or through e-mail or fax or registered mail will be not accepted by NTC.

15. OPENING OF BID

15.1 The NTC tender committee will open the technical bids at **1130 hours on dated 20-05-2026** in the presence of bidder representatives who choose to attend, at NTC Regional Headquarter Building 6- Race Course Road Lahore whereas the financial bids will be retained by NTC. The financial bids of technically qualified bidders will be opened later. The financial bids opening schedule will be conveyed accordingly

15.2 NTC reserves the right to reject any one or all bids prior acceptance of a bid / proposal.

15.3 The tender committee will resolve any issue raised by the bidders, on the spot.

15.4 NTC reserves the right to reject any one or all bids as per Public Procurement Rules, 2004 33(1).

16. RESPONSIVENESS OF BIDS

16.1 The tender security is submitted
16.2 The bid is valid till required period
16.3 The bid prices are firm during its validity and inclusive of all taxes, duties etc
16.4 The bid prices are in conformity with the required format.
16.5 Completion period offered is within specified limits
16.6 The bidder is eligible to tender and possesses the requisite experience
16.7 The bid does not deviate from basic technical requirements
16.8 The bid is generally in order etc.

NOTE: "Any bidder found non-compliant in any of above mentioned conditions will be declared as non-responsive and will not be considered for further Evaluation proceedings. A bidder once declared "Non-responsive" shall not subsequently be made responsive by the NTC."

17. EVALUATION CRITERIA

17.1 **Preliminary Evaluation**

In the first step proposals will be evaluated on preliminary grounds. For this purpose the conditions mentioned in clause-4 will be considered for this evaluation. All firms will be evaluated as per these conditions without taking into account their technical & financial proposals. Any firm found non-compliant in any of these conditions will be dis-qualified in the initial stage & will not be considered for further evaluation proceedings. The bid securities of such firms will also be released by concerned NTC officer. Moreover it will also be examined that no major deviation from the terms & conditions set forth in bidding documents is found in the proposals of prospective bidders. Only those firms found compliant & eligible will be further considered for technical evaluation of their solutions.

17.2 **Technical Evaluation**

a. All firms declared successful in preliminary evaluation will be further evaluated on the basis of their technical proposals. For this purpose, the products offered will be evaluated on the basis of parameters set forth in technical specifications enclosed as **Annex-B & C**. The bidders obtaining minimum 75% marks in the technical specifications will be considered technically qualified, besides compliance of mandatory clauses.

b. For the technical specifications where range of marks is given, the minimum of the said range will be given to the bidder complying with the minimum specifications requirement, whereas for the bidders quoting the equipment with higher technical specifications, higher marks will be given proportionately with maximum of the highest range to the said marks.

17.3 **Financial Evaluation**

After ensuring technical compliance, prices will be taken into consideration. Any item against which no rate or price is entered and left blank by the bidder shall be deemed covered by the rates / prices for other items in the BOM. However for the purpose of financial comparison, price of highest bidder against that particular item will be taken as reference. The bidder may seek information regarding financial comparison but cannot challenge to alter or modify it. However evaluated price may be shared with the successful bidder for the sake of clarity.

17.4 **Bid Score Formula**

The total bid score would be determined as follows:

$$Score_i = \left(\frac{Cost_{lowest}}{Cost_i}\right) \times 30\% + \left(\frac{Technical\_Score_i}{Technical\_Score_{highest}}\right) \times 70\%$$

where:

$Score_i$	=	Evaluated Score of Bidder i
$Cost_i$	=	Evaluated Bid Price of Bidder i
$Cost_{lowest}$	=	Lowest Evaluated Bid Price amongst all Responsive Bids
$Technical\_Score_i$	=	Technical Score of Bidder i
$Technical\_Score_{highest}$	=	Highest Technical Score amongst all Bids

17.5 The bidder securing highest evaluated score will be considered the Best Evaluated Bid / most advantageous bidder.

18. CLARIFICATIONS / CORRECTIONS OF BID

18.1 To assist in the examination, evaluation and comparison of the bids the committees, at its discretion, ask the bidder for a clarification of its bid. The request for clarification and the response shall be in writing and no change in the price or substance of the bid shall be sought, offered or permitted.

18.2 Arithmetical errors will be rectified on the following basis:

18.3 If there is a discrepancy between unit price and total price that is obtained by the multiplying the unit price and quantity, the unit price shall prevail and total price shall be corrected. If there is a discrepancy between the words and figures the amount in words shall prevail. If there is a mistake in addition / totaling that can be corrected.

18.4 If the bidder does not accept the corrected amount of bid, his bid will be rejected and his tender security forfeited.

19. COMMERCIAL COMPLIANCE STATEMENT

The bidder will furnish a compliance certificate with the bid as per enclosed format (Annex-E).

20. VARIATION ORDER & REPEAT ORDER

NTC reserves the right to place variation order (increase or decrease in the quantities of BOM) besides addition/deletion of complete link. The contractor shall be bound to accept the variation order by NTC at the time of signing of contract. Moreover, after signing of the contract, NTC may place repeat order in accordance with PPRA rules 2004.

21. AWARD CRITERIA & NTC'S RIGHT

21.1 The contract will be awarded to substantially responsive bidder with highest evaluated score (as per bid score formula), provided that such bidder has been determined to be qualified to satisfactorily perform the order.

21.2 The NTC reserves the right to accept or reject any bid, and to annul the tendering process and reject all bids, at any time prior to award of order, without thereby incurring any liability to the affected bidders or any obligation to inform the affected bidders of the grounds for the NTC's action.

22. ENGINEERING SURVEY & SYSTEM DESIGN

22.1 The bidder may carry out a detailed engineering survey of site at its own cost for installation of capsule lifts including accessories & power earthling etc. to find out exact space / cable lengths for the system & connectivity in all respects.

22.2 The successful bidders shall submit detail survey report, layout of all installations, complete system design including system performance to meet the Technical requirements, before award of the contract.

23. NOTIFICATION OF AWARD & SIGNING OF CONTRACT AGREEMENT

23.1 Prior to expiration of the period of tender validity prescribed by NTC, the NTC will notify the successful bidder in writing "Letter of Intent" through EPADs that their bid has been accepted. The bidder shall accept the LOI through EPADS.

23.2 The contract shall be signed with the successful bidder upon furnishing of acceptable performance security.

SECTION-II

IMPORTANT CONDITIONS OF CONTRACT

1. PERFORMANCE SECURITY

1.1 The successful bidder shall furnish to the NTC a performance security equivalent to 10% of the total ordered value, in the shape of bank guarantee issued from any scheduled bank of Pakistan valid for a period of **20 months** at the time of signing of contract.

1.2 The performance security shall be further extended if the delivery or commissioning is delayed.

1.3 Failure of the successful bidder to furnish acceptable performance security shall constitute sufficient grounds for the annulment of the award of contract and forfeiture of the bid security.

1.4 Performance security shall be released after issuance of FAC.

1.5 All the correspondence regarding release of performance guarantee shall be made with Director NTC Lahore.

2. CONTRACTORS RESPONSIBILITIES

2.1 The contractor shall supply & commission the equipment in accordance with the contract & responsibility area matrix.

2.2 The contractor shall not subcontract the whole of the works. The contractor shall not subcontract any part of the works without the consent of the NTC.

3. TRANSPORTATION / PACKING

All types of transportation for delivery of equipment at final destination will be the responsibility of the contractor. Contractor shall ensure proper / international packing of equipment to avoid deterioration of equipment etc.

4. NTC's RESPONSIBILITIES

NTC shall coordinate and facilitate the contractor for smooth execution of works.

5. TIME FOR COMPLETION

5.1 The contractor shall supply, install, test and configure the equipment within **17 × weeks** from the date of signing of contract; however incumbent bidder must also specify the timelines in which he can execute the whole work. The timeline can be finalized by mutual consent of both parties. The completion time includes time for both sites, and it will be effective from the date of signing of contract.

5.2 If the contractor fails to execute the work at any site within the agreed time, or unless the delay in completion is due to force majeure, the contractor's only liability to the NTC for such failure shall be to pay an amount of liquidated damages for late completion @ Pak Rs. 15,000/- per calendar Day up to a maximum of 10% of the final contract price.

6. WARRANTY / SERVICES

a. The contractor will warrant that the equipment supplied under the contract are new, un-used, and incorporates all recent improvements in design and materials and of good quality. The warranty shall remain valid for a minimum period of 12 x months after the goods have been delivered, installed and commissioned at the final destination. NTC shall promptly notify the supplier in writing of any claims arising under this warranty and the supplier will repair / replace the defective stores at reasonable speed without any cost effect.

b. The bidder, for technical assistance at the highest level shall provide high-level support/technical assistance on 365 x 24 x 7 basis.

c. The bidder and its principle firm shall intimate at least one year in advance regarding the date of End of Life (EoL) of the quoted items.

7. LIQUIDATED DAMAGES

Unless the failure to complete the work is caused by force majeure or delay is not on part of NTC, the contractor's only liability to the NTC for such failure shall be to pay an amount of liquidated damages for late completion @ Pak Rs. 15,000/- per calendar Day up to a maximum of 10% of the final contract price. In case of force majeure the LD charges may be waived off by NTC on receipt of request from contractor with documentary evidences. If the delay is on the part of NTC, and agreed by NTC, then for that time no liquidated damages will be paid to NTC. NTC shall the have discretion to impose/waive off LD Charges based on the performance of contractor.

8. PROVISIONAL ACCEPTANCE CERTIFICATE / PROJECT COMPLETION CERTIFICATION

After successful and complete installation, the contractor may notify to the concerned PD i.e. Director NTC Lahore when he considers that the works are complete. Upon such notification from contractor, the concerned PD will constitute a team and arrange/conduct a PAT "Provisional Acceptance Test" within 15 days which is approved and vetted from Civil NTC Dte, and also verify the installed equipment as per the floated BoQ. After successful conduct of PAT, Director NTC Lahore will issue the PAC in favor of Contractor subject to satisfactory completion of work as per requirement of contract. Alternatively the PD will notify the contractor that the work is not fully complete and contractor will rectify the discrepancies. Provisional Acceptance Certificate/Project Completion Certificate will be issued accordingly.

9. PRE-SHIPMENT INSPECTION

9.1 The bidder must include the cost in the bid for pre-shipment inspection of all components of the capsule lifts at their country of origin for at least **02 × NTC persons**. All the testing / inspection tools, test equipment and preparation of test bed shall be arranged by the contractor at his own expenses. Boarding / lodging, air-fare of round trip, and subsistence shall be arranged by the contractor at his own expenses.

9.2 NTC shall have the right to inspect and / or test the goods to confirm their conformity to the contract's technical specifications. If the inspected or tested equipment / goods fail to conform technical specifications, NTC may reject them and the contractor shall replace the reject equipment / goods 'or' make alterations necessary to meet technical specification free of cost (FOC) to NTC.

9.3 Custom Clearance documents must be provided at the time of delivery at site.

10. TERMS OF PAYMENT

Payment of contract price shall be made in the following manners.

10.1 Fifteen percent **(15%)** payment of the total contract value shall be payable to the contractor in advance against submission of following by contractor:

- Commercial Invoice
- Bank Guarantee of equivalent amount issued by any scheduled bank of Pakistan valid for Six (06) months from the date of signing of contract/issuance of purchase order.

The invoice will be processed for payment after confirmation of genuineness of submitted guarantee by the issuing authority (i.e. bank).

10.2 Forty Five percent **(45%)** of the total contract value shall be payable to the contractor upon successful delivery of equipment at sites. The ultimate consignee will confirm the delivery of equipment. The contractor shall furnish invoice of (60%) of total equipment value including adjustment of 15% advance value. The GST number of NTC & contractor shall be clearly mentioned on commercial invoice.

10.3 Thirty Five percent **(35%)** remaining payment of the contract value shall be payable to contractor upon successful installation, testing and commissioning of system which shall be upon issuance of Provisional Acceptance Certificate (PAC) issued by ultimate consignee/Project Director.

10.4 Five percent (5%) of total contract value shall be payable on removal of minor discrepancies pointed out in PAC which will be confirmed by issuance of Nil Deficiency Certificate (NDC) issued by Ultimate Consignees.

10.5 All the payments shall be made through cross cheque in the Pak Rupees.

10.6 Taxes will be deducted as per government rules at the time of payment.

10.7 Retention money will be deducted @ 10 % against each payment. The same shall be returned after completion of work / issuance of PAC.

11. FINAL ACCEPTANCE CERTIFICATE

The contractor may notify the NTC concerned officer at-least 15 days before the expiry of warranty period for the issuance of final acceptance certificate. Upon such notification from contractor, the NTC concerned officer will issue Final Acceptance Certificate in favour of contractor subject to satisfactory completion of warranty period as per requirement of contract. Alternatively the NTC concerned officer will notify the contractor for the discrepancies that still remain un-resolved and contractor will rectify the discrepancies.

12. DEFAULT BY CONTRACTOR

12.1 If the contractor fails to supply the equipment, refuses or fails to comply with a valid instruction of the NTC, the NTC may give notice and stating the default.

12.2 If the contractor has not taken all practicable steps to remedy the default within 14 days after receipt of NTC notice, the NTC may by a second notice cancel the order and performance security will be confiscated.

13. ARBITRATION AND AMICABLE LAW

13.1 The Contract will be construed under and governed by THE LAWS OF THE ISLAMIC REPUBLIC OF PAKISTAN.

13.2 NTC and the Contractor shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.

13.3 Any dispute, disagreement or question arising out of or relating to or in consequence of this contract or relating to its execution or performance which cannot be settled amicably, shall be referred to arbitration to Chairman / MD NTC. Only Chairman / MD NTC will have sole authority in arbitration to decide. All the decisions will be made in view of Arbitration Act 1940.

13.4 Within 30 days of the said notice, one arbitrator shall be nominated in writing by NTC and one arbitrator shall be nominated in writing by the Contractor.

13.5 The arbitration shall initiate arbitration proceedings at Islamabad. In case the arbitration does not reach on conclusion, then case would be referred to the court of Law.

13.6 Each party shall bear the cost of its own arbitrator and the cost of the third arbitrator shall be borne equally by both parties.

13.7 This Agreement shall be governed under Pakistani law and the Courts at Islamabad shall have exclusive jurisdiction over any matter that may need to be referred to a Court under this Agreement.

14. FORCE MAJEURE

14.1 The Contractor shall not be liable for forfeiture of its performance security, liquidated damages or termination for default, if and to the extent that, its delay in performance or other failure to perform its obligations under the contract is the result of an event of Force Majeure.

14.2 If either party is temporarily rendered unable, wholly or in part by Force Majeure to perform its duties or accept performance by the other party under the Contract it is agreed that on such party, giving notice with full particulars in writing of such Force majeure to the other party within 14 (fourteen) days after the occurrence of the cause relied on, then the duties, of such party as far as they are affected by such Force Majeure shall be suspended during the continuance of any inability so caused but for not longer period and such cause shall as for as possible be removed with all reasonable speed. . Neither party shall be responsible for delay caused by Force Majeure.

14.3 The terms "Force Majeure" as used herein shall mean Acts of God, strikes, lockouts or other industrial disturbance, act of public enemy, war, blockages, insurrections, riots, epidemics, landslides, earthquakes, fires, storms, lightning, flood, washouts, civil disturbances, explosion, Governmental Export/Import Restrictions (to be supported by a letter from the relevant Authority and verified by the Diplomatic Mission in Pakistan), Government actions/restrictions due to economic and financial hardships, change of priorities and any other cause similar to the kind herein enumerated or of equivalent effect, not within the control of either party and which by the exercise of due care and diligence either party is unable to overcome.

14.4 The term of this Contract shall be extended for such period of time as may be necessary to complete the work which might have been accomplished but for such suspension. If either party is permanently prevented wholly or in part by Force Majeure for period exceeding 12 (twelve) months from performing or accepting performance, the party concerned shall have the right to terminate this contract immediately giving notice with full particulars for such Force Majeure in writing to the other party, and in such event, the other party shall be entitled to compensation for an amount to be fixed by negotiations and mutual agreement.

14.5 If a Force Majeure situation arises, the Contractor shall promptly notify NTC in writing of such conditions and the cause thereof. Unless otherwise directed by

NTC in writing, the supplier shall continue to perform its obligations under the contract as far as is reasonably practicable, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

15. TERMINATION FOR INSOLVENCY

The NTC may at any time terminate the contract by giving written notice to the bidder, without any compensation to bidder. If the bidder becomes bankrupt or otherwise insolvent, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to action to the NTC.

16. TERMINATION FOR CONVENIENCE

The NTC may send a written notice to the bidder, terminate the contract in whole or in part any time for its convenience. The notice of termination shall specify that the termination is for the NTC's convenience, the extent to which performance or work under the contract is terminated and the date upon which such termination becomes effective.

17. PROJECT DIRECTOR

Director NTC Lahore.
6-Race Course Road, Lahore
Ph # 042-99201235

18. DEBARMENT / BLACKLISTING OF FIRM

18.1 As per clause-19 of the PPRA Rules 2004, NTC reserves the right of debarment 'or' blacklisting of a firm, association, corporation, joint venture, company, partnership or any other legal entity subject to any of the following acts:-

a. Consistent failure to provide satisfactory performance.
b. Contractor becomes insolvent.
c. Existence of judicial decision against a contractor in respect of a corrupt or collusive practice.
d. Submission of false and spurious documents, making false statements and allegations to gain undue advantage.
e. Commission of fraud.
f. Contractor abandons the contract.
g. Contractor without reasonable excuse fails to commence the work 'or' suspends the progress of work for 14 days.
h. Contractor is not executing the work in accordance with the contract or is persistently or flagrantly neglecting to carry out his obligations under the contract.
i. Commission of embezzlement, criminal breach of trust, theft, cheating, forgery, bribery, falsification or destruction of records, receiving stolen property, false

use of trademark, securing fraudulent registration with sales tax authorities, Pakistan Engineering council etc, giving false evidence, furnishing of false information of serious nature.

18.2 Chairman / MD NTC will constitute a committee comprising of three NTC officers and they will investigate the matter in connection with allegation of corrupt, fraudulent, coercive or collusive practices or illegally harassment or threat. Moreover, the committee shall also accord adequate opportunity of being heard to the contractor who is to be debarred / blacklisted. The said committee will forward its clear recommendations for the approval of Chairman NTC.

18.3 The debarment shall be for a reasonable specified period of time, commensurate with the seriousness of the cause. However, the debarment period shall not exceed from three years. Moreover, NTC also reserves the right of permanent blacklisting of a contractor subject to severity of the corrupt or fraudulent practices.

19. REPEAT ORDER

NTC may place repeat order in accordance with PPRA Rules.

20. INTEGRITY

20.1 The Contractor hereby declares that it has not obtained or induced the procurement of this Contract or a right, interest, privilege or other obligation or benefit under this Contract from Government of Pakistan or any administrative subdivision or agency thereof or any other owned or controlled by it (GoP) through any corrupt business practice.

20.2 Without limiting the generality of the foregoing the Contractor represents and warrants that it has fully declared the brokerage, commission, fees etc, paid or payable to anyone and not given or agreed to give and shall not give or agree to give to anyone within or outside Pakistan either directly or indirectly through any natural or juridical person, any commission, gratification, bribe, finder's fee or kickback, whether described as consultation fee or otherwise, with the object of obtaining or including the procurement of this Contract or a right, interest, privilege or other obligation or benefit under this Contract in whatsoever form from GoP, except that which has been expressly declared pursuant hereto.

20.3 The Contractor accepts full responsibility and strict liability for making any false declaration, not making full disclosure, misrepresenting facts or taking any action likely to defeat the purpose of this Claus.

21. DECLARATION OF BENEFICIAL OWNERS' INFORMATION

The "Declaration of Beneficial Owners' Information of Public Procurement Contract Awarded Regulations, 2022" require that the contractor shall be bound to provide beneficial ownership information as per Performa attached as **Annex-H.**

Annex-A

BOQ for Supply, installation ,Testing & Commissioning of 02 x Capsule Lifts at NTC Regional Office Building, 6-Race Course Road Lahore.

S#	Description	Qty	Rate(Rs.)	Rate in Words	Unit	Amount in Words	Amount(Rs.)
1	Design, Supply, and delivery at site of new complete fully imported Passenger capsule type GEARLESS Elevators/lift 600 - 800 Kg -6 persons, as per specifications and scope of works in tender documents/schedule i-e SIGMA, HYUNDAI, FUJI, OTIS, THYSSENKRUPP, MITSUBISHI, SCHINDLER, KONE, CORONA, GIANT KONE, AXEL & ORONA (imported China brand).	2			No		
Total (A)							
Total (A) in Words							
GST @ 18%							
GST @ 18% in Words							
Sub Total (A)							
Sub Total (A) in Words							

2	Installation, Testing, commissioning, operation and maintenance of above fully imported lifts at site including the charges of all civil works, scaffolding work, counter weights, supports, separator beams, brackets, embedded parts, access ladders, screens including cleaning of pit and repairing of pit floors, providing of buffer springs foundations and other related works making all the civil works (Marble etc) /mechanical /electrical alteration works required for installation of new elevator machines and elevators inside the elevator shaft ,repairs civil work to house the new elevators repairing of walls/plastering if required repair of chipped portions in pit /well to accommodate opening of doors at all floors ,cleaning and removing of debris from the site to safe location. The work shall include all materials, labour, and transportation including the cost of Cutting, dismantling of RCC wall for resizing of well as per required size of cabin for installation of lift including the cost of repairing, disposal of surplus material complete as required at site (Hilti, Drill shall be use only and hammer will not be allowed) as required at site as per direction of Engineer in Charge.(inclusive the cost of Training and Pre shipment inspection)	2			Job		
3	Dismantling and stacking of existing installed elevators, clearing of debris, unused material with all lead and lift complete in all respect.	2			Job		
Total (B)							
Total (B) in Words							
PST @ 16%							
PST @ 16% in Words							
Sub Total (B)							
Sub Total (B) in words							
Grand Total (A + B) Including all Applicable Taxes							
Grand Total(A+B)Including all Applicable Taxes in Words							

Technical Specifications Passenger Elevator at NTC Lahore

Bidder's Name	
Bidder's Quoted Brand	
Manufacturing Country (Made & assembeled in)	

S.No	Title		Marks	Bidder's Statement				
				FC	PC	NC	Bidder's Quoted Feature	Marks
	Design Parameters for Passenger Elevator		-					
1.1		Participating firm keeping minimum 15 years relevant experience	10					
1.2		Detail of completed minimum 05 projects in last 10 Years and provide certificate issued by the client.	10					
1.3		Office address in Lahore or other city	5					
1.4		PEC M03 category C-5 category PEC registeration	M					
1.5	Make and Manufacture of Elevator	SIGMA, HYUNDAI, FUJI, OTIS, THYSSENKRUPP, MITSUBISHI, SCHINDLER, KONE, CORONA, GIANT KONE, AXEL & ORONA (imported Chinese brand).	M					
1.6	Country of origin & Manufacturing	Imported Chinese brand	20					
1.7	Applicable Codes and Standards	The quoted equipment must comply British Standards Specifications (B.S.)/New European Standards for lifts, American Welding Society (AWS), National Electric Manufacturer's Association (NEMA) & National Electric Code (NEC) by NFPA Standards as mentioned in General Specifications and Design requirements (**Annex-E**)	M					
1.8	Type	Elevator Panoramic/Capsule type	M					
1.9	Capacity of elevator Kgs	≥600 Kg	M					
1.10	Speed	60 m/min or higher	10					
1.11	Machine type	Gearless machine with machine room	M					
1.12	Landing and car door operation	Automatic power operated stainless steel doors with hairline finish bi-parting center sliding doors	M					
1.13	Display Signals	Elevator/Car direction display, digital position/floor indicators ,visual indications in car at all floors over load audible indication, floor calls	10					
1.14	Elevator Operation	Microprocessor controlled collective/ selective / simplex / automatic operation	20					
1.15	Allowable level difference	within tolerance of ± 5-6 mm	10					
1.16	Operating temperature and humidity	40-50 ^{0}C with 90-95% humidity	5					
1.17	Electronic Auto rescue device	For stopping the elevator at nearest floor in case of power failure with appropriate UPS and battery bank	M					
1.18	Infrared Sensors	Multiple infra red body sensors to cover the total height and width of doors	5					
1.19	Voice Call	Announcement at respective floors and in emergency situations to be provided	5					
1.20	Other Specs	SS hand Rails in car to be provided	5					
1.21		Built in intercom	5					
1.22		Door open door close and hold operation to be included	5					
1.23		Emergency alarm button in car to be provided	5					
1.24		Ventilation fan to be provided	5					
1.25	Limit switches	Floor limit switches mechanical/photoelectric	10					
1.26	Power Supply	Main = 3 phase /400/50 Hz(±5%) Light = 1 phase/230V/50Hz	5					
1.27	Door Safety Device	Photo beam sensor strip type Retractable safety edge	10					
1.28	Brake	Electromagnetic Automatic brake with safety devices	10					
1.29	Car Light	Lights inside cars to be provided with minimum light intensity achieving 200 LUX (LED Lights)	10					
1.30	Car ventilation fan	Bidder should specify	10					

Technical Specifications Passenger Elevator at NTC Lahore

Bidder's Name	
Bidder's Quoted Brand	
Manufacturing Country (Made & assembeled in)	

S.No	Title		Marks	Bidder's Statement				
				FC	PC	NC	Bidder's Quoted Feature	Marks
1.31	Call indicator and position indicator in car	Bidder should specify	5					
1.32	Car Flooring	Bidder should specify	10					
1.33	Car Ceiling detail	Bidder should specify	10					
1.34	Allowed Power variation and frequency	Bidder should specify	5					
1.35	Motor Specs	Motor Make and type - variable voltage variable frequency (VVVF)	M					
1.36		Motor KW rating	10					
1.37		Speed	5					
1.38		Duty Cycle	5					
1.39		Full Load Amperes	5					
1.40		Regenerative drive	10					
1.41	Earthquake Seismic detectors	Bidder should specify	5					
		TOTAL	260					

Technical Evaluation Criterea	Refer to Clause # 1.5 & Clause #1.6, complete equipment to be supplied under the contract shall be of imported origin and shall be provided by single source of OEM from any one of the mentioned lift manufacturers or other equivalent imported brand.
	Bidder must comply the detailed General Specifications and Design requirements (Annex-C).
	Bidder's Statement column must be properly filled to clearly state the available feature/compliance as fully complied (FC), partially complied (PC) or not complied (NC) or better feature is available, Tick the relevant box. The bidder must Fully comply to all Mandatory clauses (Denoted as "M" in Marks column) failing to do so will Technically disqualify the bidder, Moreover, the bidder should score 75 % or more of the total marks given in "Marks" column. The compliance of above specification must be supported by data sheet of product to certify the Compliance.

NATIONAL TELECOMMUNICATION CORPORATION NTC National Telecom LAHORE

Annex-C

GENERAL SPECIFICATIONS AND DESIGN REQUIREMENTS

PASSENGER LIFTS

(NTC LAHORE BUILDING)

1. GENERAL

This section shall cover lifts where indicated on the drawings and specified herein, any conflicts between the requirements in this specification and the codes, drawing, standards and specifications referred to herein shall be brought immediately to the engineer for resolution. The bidder shall submit technical data sheets, outline drawing and printed technical literature to fully elaborate offered equipment. The bidder is advised to visit the site to check the available lift shafts, pit depth and machine room etc., to ensure that offered equipment will suit to the existing condition.

2. SCOPE OF WORK

Following lift work are required for NTC Regional headquarter Building, 6-Race Course Road Lahore. Supply and Installation of two (02) passenger Elevators Panoramic/capsule type, 600-800 Kg, 6 persons capacity serving two basements, Ground and three floors (06 stops).

The scope of work shall cover design, supply installation, testing and commissioning of entire lift equipment including hoisting machinery, sheaves and girders, controller, car ropes, counterweights, supports, brackets and guides for car and counterweights, car gears, buffers, pit screens, well trimming girders ,pit access ladder, trap door and such related accessories complete in all respects as specified herein. The Contractor shall also furnish all labour, erection equipment (i.e. winches, scaffolding and all kinds of civil work), erection tools, appurtenances, embedded parts and materials etc. necessary to supply, install, test and commission the lift all in perfect operating condition in accordance with these Specifications and Drawings. The Contractor shall submit design drawings within two weeks after award of work for approval of Engineer. The drawings must show final arrangement of equipment, dynamic and static loads imposed on the building, openings, location of embedded parts etc. wiring and control logic diagrams.

The Contractor shall provide and install, from designated electrical power supply points, all required cabling, distribution boards and accessories without cost to the Employer.

The Contractor shall operate (8 hours basis) and maintain the works during the defect liability period. In addition to routine periodic maintenance, the Contractor shall execute all such work of repair, rectification, parts replacement and making good defects occurring during this period. The cost of operation and maintenance

shall be included in rates quoted in Schedule of Prices. Design of equipment to be supplied by the Contractor shall also be the responsibility of the Contractor and/or his suppliers.

The Contractor shall also provide training to the staff of Employer regarding operation and maintenance of the equipment at least for three months.

Prior to substantial completion date, the Contractor shall submit 3 copies of Operating and Maintenance Manuals to the Employer/Engineer in-charge.

3. APPLICABLE CODES AND STANDARDS

The works shall generally conform to standards & codes (latest additions) listed hereunder:

British Standards Specifications (B.S.)/New European Standards for lifts EN 81-20 & EN 81-50

BSEN 01.1	:	Safety rules for construction and installation of electric lift.
BS 5655-Part 5:		Lifts and Service Lifts - Specifications For dimensions of Electric Lift arrangements.

American Welding Society (AWS)

AWS B 3.0	:	Standard Qualification Procedure
D 1.1	:	Structural Welding Code

National Electric Manufacturer's Association (NEMA)

NEMA-ICS6	:	Enclosures for Industrial Controls and System

National Electric Code (NEC) by NFPA

NFPA 70	:	National Electric Code
ANSI-A 17.1	:	American National Standard Institute "Safety Codes for Elevators & Dumbwaiter"

Other authoritative codes and standards which ensure equal or higher quality than those referenced may also be acceptable subject to approval of the Engineer.

4. ORIGIN OF SUPPLY

Complete equipment to be supplied under the contract shall be of imported origin and shall be provided by single source of OEM from any one of the following lift manufacturers origin brand (Imported Chinese brand).

a. SIGMA
b. HYUNDAI
c. FUJI
d. OTIS
e. THYSSENKRUPP
f. MITSUBISHI
g. SCHINDLER
h. KONE
i. CORONA

j. GIANT KONE
k. AXEL
l. ORONA

All major lift components shall be manufactured the Lift manufacturers' own manufacturing plants, such as complete hoisting unit including gearbox & electric motor, controller, door operator, car, guides, safety devices etc. However, components like counterweights, pit screen, access ladder, trap door, support brackets may be of local origin.

5. SPARE PARTS

The Bidder shall provide recommended spares. Contractor shall be bound to ensure availability of spare parts for at least 10 (ten) years on payment.

6. PACKING

The Contractor shall prepare all articles and materials for shipment in such a manner as to protect them from .damage in transit or loss from repeated handlings and withstand extremes of climate during transport and storage at site. Packings shall be non-returnable.

7. HANDLING & STORAGE

The Contractor shall carry out port clearance, arrange inland transportation and deliver at site the lift machinery /equipment in their original packages and bundles bearing identification tags. A dry and protected area, close to work site, will be assigned to the Contractor for storage of his materials and tools. The Contractor shall store the equipment at his own cost and arrange guards to ensure safety of equipment.

8. PAINTING

8.1 GENERAL

All lift equipment including exposed steel work, ferrous metal parts of motor room equipment, gear and controllers, structures, cars, doors, guide rail fixings and other materials in the hoist-way (except guide rails) shall be properly prepared, primed, undercoated and then painted in accordance with recognized international standards. The type and shade of paints particularly the finishes shall be subject to the approval of the Engineer.

8.2 PREPARATION OF METAL SURFACES PRIOR TO PAINTING:

Before applications of primer, all surfaces shall be made clean and free from rust and grit by means of blast cleaning. Automatic blasting may be used with most of the common abrasives such as shot, chilled iron, cut wire, or proprietary grit abrasives. The surfaces shall be immediately painted after blast cleaning. In the

event the surface becomes otherwise contaminated in the interval between cleaning and painting, re-cleaning shall be done before painting.

Surfaces of stainless steel, aluminum, bronze and machined surfaces adjacent to metal work being cleaned or painted shall be protected by effective masking or other suitable means, during the cleaning and painting operations.

8.3 APPLICATION OF PAINTS:

All paints shall be in a thoroughly mixed condition at the time of application. All work shall be done in a workmanlike manner, leaving the finished surface free from drips, ridges, waves, laps and brush marks. All paints shall be applied under dry and dust free conditions. Unless approved by the Engineer paint shall not be applied when the temperature of the metal or the surrounding air is below 45°F. Surfaces shall be free from moisture at the time of painting.

The first coat of paint shall be applied immediately after cleaning. When paint is applied by spraying, suitable measures shall be taken to prevent segregation of the paint in the container during painting operation. Effective means shall be adopted for removing all free oil and moisture from the air supply lines of the spraying equipment.

Each coat of the paint shall be allowed to dry or harden thoroughly before the succeeding coat is applied. Surfaces to be painted that will be inaccessible after assembly shall be completely painted prior to assembly operation.

9. MATERIALS & WORKMANSHIP

9.1 MATERIALS

All materials shall be of the highest grade, free from defects and imperfections, of recent manufacture and unused, and of the classification and grades designated, conforming to the requirements of the latest issue of the appropriate specifications and standards. All materials, supplies, and articles not fabricated by the Manufacturer shall be the products of recognized reputable manufacturers.

9.2 WORKMANSHIP

All work shall be performed and completed in a thorough workmanlike manner and shall follow the best modern practice in the manufacture of high-grade machinery, notwithstanding any omissions from the Tender Documents. All work shall be performed by mechanics skilled in their various trades. All parts shall be made accurately to American Standard or other approved gage, where possible, so as to facilitate replacement and repairs. All bolts, nuts, screws, rivets, threads, pipes, gages and gears shall conform to applicable American or other approved standards.

9.3 STRUCTURAL METAL WORK

The fabrication of the Structural Steel shall be performed strictly in accordance with these specifications and shall otherwise conform to the latest revision of the American Institute of Steel Construction "Specifications for the Design, Fabrication, and Erection of Structural Steel for Buildings". Surface finish shall conform to ANSI Standard B 64.1 Surface Texture. The Manufacturer shall be responsible for all errors of fabrication and for the correct fitting of the elements of the equipment. Structural Steel shall be thoroughly straightened by methods that will not result in injury. Sharp kinks or bends in members to be straightened will be cause for rejection. Completed work shall be free from kinks, bends or winds. Shearing shall be accurately done, with neat finish. Corners shall be square and true unless otherwise shown on the Drawings. Re-entrant cuts shall be made in a workmanlike manner and, where they cannot be made by shearing, a re-entrant punch may be used. Re-entrant cuts shall be filleted unless otherwise approved by the Engineer. Bends, except for minor details, shall be made with approved dies or bending rolls. Where heating is required, precautions shall be taken to avoid overheating the metal, and it shall be allowed to cool in such a manner as not to destroy the original properties of the metal. Steel with welds will not be accepted except where welding is definitely specified, called for on the Drawings, or otherwise approved. Low-carbon structural steel may be cut by machine-guided or hand-guided torches instead of shears or by saws. Flame cutting of material other than low-carbon steel shall be subject to approval and where proposed shall be definitely indicated on detailed drawings submitted to the Engineer. Where a torch is mechanically guided, no hipping or grinding will be required except where necessary to re-move the slag and sharp edges.

Flame gouging will be permitted in preparation of welding where a torch is hand-guided. All cuts shall be chipped, ground or machined to sound levels.

10. PRODUCT DESCRIPTION

10.1 GENERAL

Lifts shall be installed by the Contractor in the shafts at location shown on the drawing. The planned dimensions of respective lift wells and pits are also shown on the drawings. Structurally the lift well and pits have been designed and constructed to withstand the loads normally expected for lift of such capacity. The Contractor is recommended to provide equipment loading on the well and pits of each lift sufficiently in advance to ensure conformance and suitability of the structure for the installation and operation of the equipment.

Any changes in the above planned lifts shaft and pit floor structure or other design details due to particularly equipment requirement shall be submitted by the Contractor to the Employer/Engineer for approval within 15 days from the date of Award of the Contract. All such approved amendments shall be made by the Contractor without any additional cost to the Employer. Similarly the lift contractor must coordinate the installation with the other trades.

The lift Contractor shall also provide opening in Lift well for suitable ventilation and for escape of gases and smoke in case of fire.

The control cabinet/panel of lift shall be located at the top most floor. The dimensions/location shall be given on buildings drawing by the Lift Manufacturer.

The location of drive machinery and control cabinet shall suit the lift shaft orientation so as to allow easy access and sufficient space for maintenance work and to provide good looking architectural outlook.

The Contractor shall acoustically insulate the lift shaft and shall appropriately isolate the equipment from the building to prevent disturbances in the surroundings area due to operating machinery:-

- Sound reducing materials to isolate motor set from beams and building structure, balance rotating part to eliminate vibrations and flexible electrical conduits shall be provided. The operation of Lift car and doors shall be completely free from all abnormal jerks, vibrations and sound. The maximum sound level within the car must be within comfortable limits for human being (max. 45 dBA).

The characteristic details of the lift to be supplied under this contract arc listed under Para 11.0. The construction and functional detail are given hereunder:

10.2 CIVIL CONSTRUCTION

a. LIFT WELL

The lift shall be installed in the complete lift wells of dimensions as given in the **Annex-D**.

The Contractor shall be responsible to carry out correction/ re-sizing of well as per size of lift quoted by contractor for the purpose of installation of guides/cabin in perfect plumb and other equipment to ensure perfect installation and operation of the lifts without any cost to the Employer.

b. PIT

The pit for the lifts is available as per Specifications.

c. HOOK/I-BEAM FOR EQUIPMENT INSTALLATION

Hook/I-beam shall be available on ceiling of the lift well to facilitate installation and maintenance of equipment.

10.3 LIFT CAR

a. CAR FRAME & PLATFORM

The car frame shall be made of welded or bolted steel channel sections. The hook/I-beam provision shall be made on ceiling of the lift-well to facilitate installation and maintenance of equipment.

The car frame shall be sufficiently rigid to withstand the operation of the safety-gear without permanent deformation of the car frame. The elevator car, platform, door operating mechanism, safety doors, maintenance station etc. shall be mounted on car frame.

The deflection of the members carrying the platform shall not exceed 1/1000 of their span under static conditions with the contract load evenly distributed over the platform.

Roller guides, mounted on car frame, shall have individual suspension to cushion jolts and minimize noise and vibration.

The platform shall be of fabricated frame of formed and structural steel shapes gusseted and rigidly welded, with provision for a floor covering as specified with the car body work. Rubber pads of sufficient size shall be provided between the car frame and the platform to provide sound and vibration isolation. The underside of the platform will be covered with sheet steel to provide adequate fire resistance.

An aluminium sill grooved to suit door, as per requirement, shall be fitted to the platform together with a toe-guard.

The car bodywork shall he carried on the platform with the top fixing to the car frame being suitably isolated.

All auxiliary equipment shall be mounted and supported from the car frame.

b. CAR BODY WORK

The car bodywork shall be of steel construction with provision for interchangeability of décor finishes and ceiling designs. The roof shall be constructed to withstand the weight of two men without deformation.

The car shall have provision for emergency communication and roof trap door with micro- switch. A3-pin socket outlet shall be fitted on top of the Lift car, besides two outdoor protected type lights one each at the bottom and top of the car operated through an M.C.B.

c. FINISH

The car enclosure shall have stainless steel mirror etching wall panels. The floor shall be granite (as approved).

Ceiling shall be in acrylic finish of approved design.

Handrails on three sidewalls shall be provided with brush finish standard stainless steel hollow section as approved. Fixing brackets shall also be in stainless steel.

The design and finish of car interior together with suspended ceiling, light fittings, floor covering and other fitting shall be to the Engineer's approval. The Contractor shall offer various options of car finish with his bid.

d. TELEPHONE

A telephone compartment shall be provided in car in the front return panel above the car operating buttons. The compartment shall be provided with hinged door flush with the panel. The entire compartment and door shall be of stainless steel as approved by Engineer.

e. CAR VENTILATION

The car shall be provided with mechanical ventilation, consisting of a motor-driven propeller fan, arranged to discharge air into the car through a concentric ring louver located in the center of the car ceiling. The fan and motor assembly shall be provided with rubber mounting which shall effectively prevent transmission of vibration to the car structure. The concentric ring louver shall be shaped to diffuse the air uniformly over the car area. The fan shall be of adequate capacity. Fan motor shall be 220V, IPH, 50Hz A.C. provided with a manually operating switch in the car station.

10.4 DOORS

a. LANDING DOORS

Each landing shall be provided with two-panel central opening stainless steel doors as detailed in product data sheets. The frames and architrave shall be made of stainless steel in satin finish. The door panels have a fire resistance rating of at least one hour. The panels shall be interconnected by a maintenance-free self- tensioning synchronizing wire rope.

Each landing shall be equipped with a toe-guard apron at the hoistway entrance side. The toe-guard apron shall be of sheet steel not less than 16 gauge thick, and shall extend not less than 50mm beyond the entrance jamb at each side. Toe-guard apron shall be approximately 2 feet deep, adequately fastened and braced, the lower edge turned inward.

The frames shall be of 14 SWG (min.) and panels fascia, toe-guards, dust and hanger covers shall be of 16 SWG. All other features not covered above shall be similar to that specified under Car Doors.

Each landing entrance shall be equipped with an approved type factory tested interlock as required by the code. The interlock shall be designed to prevent movement of the car away from the landing until the doors are locked in the closed positions defined by code and shall prevent opening of the doors at any landing from the corridor side unless the car is at rest at that landing or is in the leveling zone and stopping at that landing.

Landing door unlocking device as specified by the ANSI A17.1 or B.S. 5655: part 1 Code shall be provided to permit authorized persons to gain access to hoistway when Lift car is away from the landing.

Each Landing door or door panel shall be furnished with sheave type two-point suspension hangers and tracks complete in all respects. The sheaves, shall have polyurethane tires with ball bearings sealed and lubricated for life. Hangers shall be with an adjustable slide to take the up-thrust of the doors. Tracks shall be of cold drawn steel shapes with smooth surface and shaped to conform to the hanger sheaves. Tracks shall be removable for replacement.

b. CAR DOORS

The car doors shall be of stainless steel, two panels central opening type. The door-gear shall be operated by a fractional kilowatt DC/ AC motor. The door gear shall be built-in unit with the car door top track support, mounted on the car entrance column extensions.

A retractable car door coupling shall be provided to connect the car and landing doors to eliminate any backlash and ensure complete door synchronization.

The car doors frame shall be of stainless steel (satin finish) with panel construction and other features such as noise damping, fire rating, etc. similar to the Landing Doors.

The door panels shall be suspended from sheave hangers with polyurethane tires and sheaves running on a polished steel track, and guided at the bottom by non-metallic shoes sliding in an extruded aluminium threshold groove.

If the car is stationary at floor level with the doors closed, it shall be possible to open the car doors from inside the car by pushing the car door in the opening direction. To open the doors from the landings, the key must be used.

c. DOOR SAFETY DEVICES

The car doors shall be fitted with the following safety devices in addition to those mentioned previously:

i. **FULL WIDTH LIGHT CURTAIN**

A full width light contain (light cut of rays) shall be provided to reopen or hold the doors in open position when light beams are interrupted. Means of by passing of light beams in case of a failure of it's components to permit normal operation shall be provided.

ii. **DOOR OPENING TIME FEATURE**

The door open timing feature shall operate in conjunction with above safety devices to provide adjustable, reduced, hold open time once rays are broken and re-established. In the event rays are broken beyond an adjustable time, a buzzer shall sound and doors to close at reduced speed.

d. DOOR OPERATOR

A variable speed door operating unit capable of opening and closing car and landing doors simultaneously shall be mounted on the car frame independent of

the car bodywork. The mechanism shall be designed to achieve smooth acceleration and retardation of doors without the use of dashpots. All pivot and bearing points shall be of steel and nylon or bronze bushed pins, ball or roller bearings suitably lubricated shall be fitted.

The driving mechanism shall be designed such that:

- The closing force applied to the door shall meet the requirement of B.S.5655: Part I.
- The car door can be opened by hand in the event of a main failure.
- The motion of the door will be reversed if they meet an obstruction. A variable speed DC drive shall be provided to obtain the performance required by the control system.
- Mechanical Control Station, carrying controls and requirement as specified in B.S.5655 shall be fitted on the top of the operator.

10.5 HOISTING EQUIPMENT

a. GENERAL

The lifts shall be Machine Room Type. The complete drive machinery, converter and controller shall be installed in the lift well machine room.

Anchor bolts, templates, inserts, signal boxes, and sleeves for installation shall be furnished by the Contractor. Additional structural members such as steel angle, steel beam supports for governors, motors, controller, rope guards shall also be supplied by the Contractor.

An elastic material sound reducing buffer shall be provided under the base of the hoisting machines to isolate sound and vibrations from the building structure. The rotating parts shall be dynamically balanced to eliminate vibration.

b. HOISTING MACHINES

i. TRACTION TYPE GEARLESS MACHINE

The hoisting machine shall be of the gearless type drive with motor, brake and other integral parts mounted as one assembly on steel bed plates so that proper alignment of these parts is maintained under all conditions.

Manual operation shall be by a smooth-rimmed detachable, spoke-less wheel fitted to the shaft.

ii. MOTOR

The variable voltage variable frequency (VVVF), motor specially designed to meet all lift duty requirements shall have a duty cycle rating of a minimum of 180 starts per hour. The motor speed shall have control to allow smooth transition between acceleration and deceleration phase.

The motor shall be capable of stable operation at all speeds upto the stated maximum and no abrupt speed change shall be permitted. It shall have a drip proof enclosure and may be force ventilated.

The drive motor shall be rated to provide sufficient power to accelerate the elevator to full speed in the shortest period while maintaining passenger comfort.

The power system shall incorporate solid-state equipment controlling the speed of the lift motor, Smooth performance with stepless acceleration and deceleration are to be provided with a leveling accuracy of ±0.25" the final stop at floor level is to be achieved dynamically after which the machine brake shall be applied to hold the lift car stationary at half load.

iii. **BRAKES**

The brake shall be spring actuated, electrically released and of adequate proportions for the duty involved. It shall operate on a brake drum keyed to the worm shaft and shall be fitted with two self-aligning shoes actuated by compression springs.

The brake shall be instantly and automatically applied in the event of interruption of the power supply.

The brake shall be capable of bringing the car to rest smoothly, under maximum conditions of load and speed, and of sustaining a static load of 150% of the contract load.

iv. **PULLEYS, SHEAVES, DRUMS FOR SUSPENSION**

Drums, pulleys and sheaves shall be of cast iron or steel. They shall have machined grooves, which shall be smoothly finished and have rounded edges. The grooving shall comply with the appropriate requirements as stated in B.S. 5655: Part I. Adequate provision shall be made to prevent ropes from leaving drums, pulleys or sheaves.

All deflector pulleys necessary to obtain the proper lead of the lift ropes to car and counterweight shall be provided.

v. **CONTROLLER**

The lift control system: shall be fully microprocessor based capable of operating with full collective mode of operation to cater for the inter floor traffic. This control system shall cater for all operations of the lift. Control panel shall be located in the lift well with maintenance access panel at the top floor landing. The control system to have following features:

- Correction Drive
- Phase Failure Detection
- Recall Drive Feature

- Drive Time Supervision
- Door Zone indication
- Elevator Position Synchronizing
- Accurate Re-leveling
- Stuck Push Button Supervision.
- False Call Cancellation

The controller shall be arranged to cut off the power supply, apply the brake and bring the car to rest upon failure of operation of any of the electrical safety devices.

The Controller shall meet the requirement as specified in BS 5655.

10.6 HOIST-WAY EQUIPMENT

a. SUSPENSION ROPES

Suspension ropes of high grade steel, specially designed for lift duty shall be provided in conformity with the requirements of B.S. 329. The material of the rope shall conform to B.S. 2763. It shall be free from loose wires, distorted strands or other irregularities. All rope terminals shall comply with B.S. 461 Independent adjustment shall be provided for each rope.

The length of each rope shall be so adjusted that it looses traction with sheave when the counter-weight touches its buffers. An automatic device shall be provided for equalizing the tensions of suspension ropes at least at one of their ends.

b. GUIDES, FIXINGS AND INSERTS

The guides shall consist of high quality 'T' section steel of adequate strength and dimensions suitable for travel, car weight, speed and lift capacity. Guiding surfaces shall be accurately machined. The joints shall be spigotted, and joined by machined steel fish plates.

Guides shall be of sufficient length to prevent any of the car or counterweight shoes from running off the guides.

All guides are to be securely fixed to the walls of the lift well by steel brackets bolted to metal inserts or by other approved means. All metal inserts, fixings, guide rails, anchor bolts etc. shall be provided by the lift Contractor.

Guides shall be so jointed and fixed to their brackets that they do not deflect by more than 3mm under normal operation.

Guides and their fixing shall withstand the application of the safety-gear without permanent deformation when stopping a fully laden car or the counterweight.

c. COUNTERWEIGHT

A counterweight equal in weight to the car plus 40% to 50% of the specified load shall be provided to each lift. Structural Steel frame shall support requisite number of cast iron weights.

It shall be fitted with guide shoes and suspension arrangements and accessories suitable for specified lift capacity.

Car and counterweight are to be fitted with roller guide shoes.

d. SAFETY GEAR AND GOVERNOR

A friction type progressive safety-gear actuated by centrifugal speed governor shall be securely bolted to the car frame under the car platform.

The governor wire rope operating the safety gear mechanism shall not be less than 8mm diameter.

The tension weight fitted with an electrical safety device shall be provided to cause the hoist motor to stop should the governor rope break or slacken.

The governor shall be fitted with a direct driven unit to relay to the control system both the speed and position of the lift in shaft.

The governor shall be equipped with two electrical switches, preset to operate progressively in case of over speeding to reduce the lift speed in the first stage and if the lift speed is not brought under control by 1st switch operation, the second switch shall, operate to cut off power supply to the hoist machine and apply brakes.

If the car continues to travel downwards at excessive over speed the mechanical trip shall operate causing the governor jaws to grip the rope to bring the safety gear mechanism into operation causing the jaws to grip the guide rails equally through self-aligning friction shoes thus bringing the car to rest gradually and smoothly and shall also interrupt the control circuit of lift causing power to be cut off and the break to be applied. The governor and safety gear shall be released by raising the car.

The governor and safety gear shall be adjusted to operate as specified by B.S. 5655 and EN-81-1.

e. BUFFERS

Oil buffers of spring-return type shall be supplied and installed in pit under car and counterweight for the Lift. The minimum total stroke of the buffer shall be based on the retardation of 32 feet/ sec^2 based on 115% contract speed.

The buffers shall be mounted on continuous channels securely anchored to the pit floor and fastened to the guide rails. The channels, anchors, buffers, access ladders,

strut, braces and any additional supports required for buffers shall be provided by the Contractor.

The buffers shall be fitted with means of ascertaining the correct amount of oil in the buffers and construction shall ensure that any oil displaced during the operation, is contained within the buffer.

Each buffer shall be permanently and legibly marked to indicate the type and quantity of oil to be used within the buffer. The buffers shall be self-setting type fitted with safety device to ensure its return to the normal position after operation.

f. FINAL LIMIT SWITCHES

The lift shall be equipped with an automatic device arranged to bring the car to a stop at the terminal landings independent of the regular operating devices in the car. Final limit switches to be provided operated by the movement of the car to stop the car and prevent normal operation should it travel beyond the normal stopping device.

Separate control devices for normal stopping and final limit switches shall conform to the requirements of BS 5655: Part I,

g. LIGHTING & SOCKET OUTLETS

The electrical lighting to the car and hoistway shall be independent of the supply of machine. Socket outlets shall be provided on car top pit and top of hoistway near machine.

Well lighting switches shall be provided at top of hoistway and pit so that it can be operated from either location.

h. PIT ACCESS LADDER

A rugged steel ladder for easy access to the pit shall be provided by the Lift Contractor.

i. PIT SCREEN

A suitable rigid screen shall be provided and fixed by the Lift Contractor at the bottom of the lift well where the counterweight comes down to its buffers and between lifts if required.

10.7 CONTROL SYSTEM

a. GENERAL

The control system shall be designed comprising functionally arranged section modules featuring high degree of efficiency, economy or operation, adaptability to changing operating conditions, safety and reliability in operation through maintenance free electronic circuitry.

The control equipment shall be microprocessor based electronic solid state. The total system shall be designed to operate in machine space ambient condition and

incorporate full protection against electrical noise/interference generated within the power section, controller and switchgear. The system design shall allow the control algorithm to be reprogrammed by software changes.

All modules shall be tested at the manufacturer's works prior to installation.

The control system/operational mode of the lift will be as under.

b. OPERATIONAL MODE

The operational mode of the passenger capsule lifts shall be simplex collective selective automatic control with special operational features, via emergency switch and fireman switch.

The control system shall be provided with a parking feature, which returns the car to the main floor where there are no calls in the system.

Up Hall and Down Hall Call Button are provided in each floor. Down hall call is provided in the highest floor. In the lowest floor only up Hall Call Button is present.

Car Buttons are provided on a Car Operating Panel inside the car. On pressing a button registers a Call. Car responds to Calls made in the direction the car is travelling, one Call after another. After responding to all registered Calls in one direction, car automatically reverse direction and start serving to Calls made for opposite direction. If there are no more Calls after serving to all Calls, car will park at the last-served floor with the doors in close position.

Car parking is adjustable on Employers desire. The elevators operate automatically without operator after the pressing of Car/cabin or floor call button.

c. LOAD WEIGHING

Means shall be provided for weighing passenger load. Control system shall be designed to provide dispatching in advance of normal intervals and to provide landing call by-pass when the car is filled to approximately 80% of full capacity load.

Settings shall be individually adjustable. A buzzer shall be provided to indicate overload in lift.

d. DOOR OPERATION

Doors shall open automatically when a car arrives at a terminal to permit egress of passengers whether or not the terminal floor call has been registered in the car. When the car is registered for designated station., the doors shall close automatically and car will starts travelling towards designated destination.

e. AUTOMATIC LEVELLING

An automatic 2-way levelling device shall be provided, designed to govern the leveling of the car to within 6mm above or below the landing sill. The levelling operation shall avoid over-travel, under-travel, of the car and maintain the leveling accuracy regardless of the load in the car, direction of travel, rope slippage or stretch in ropes.

f. INDEPENDENT OPERATION

Controls shall be provided for operations of the lift from car buttons only. A key operated switch shall be provided in the car.

g. EMERGENCY FEATURES

i. **Emergency operation:** The lift shall be equipped with control system to operate and recall the car in case of fire or other emergency conditions and to allow the lift to run on emergency power supply.

ii. **Emergency Lighting and Emergency alarm unit**: An emergency light shall be included for the lift car. An automatic change over switch shall be provided in the controller so that upon normal supply failure emergency power supply shall be available for the light fixture, exhaust fan, and alarm unit.
The Contractor shall supply a suitable button in the car control station wired to a terminal box fixed in the lift shaft near the bottom floor served. A suitable alarm bell, shall be provided and fixed including all necessary wiring connecting upto the terminal box.
The power for the emergency lighting, exhaust fan and alarm bell shall be from the same emergency supply consisting of rechargeable nickel cadmium battery unit with trickle charger and 05 years minimum life expectancy.

iii. **Emergency power transfer:** In the event of normal power failure, adequate emergency power will be supplied through Employer furnished standby generator to run the Lift.

iv. **Intercom:** The Contractor shall install for each lift, an intercom facility will control room or at location designated by Employer,

v. **Earthquake control:** In the event of an earthquake, the lift facility shall be provided with a seismic detector which will bring all cars to stop at the next floor and open the doors.

10.8 SIGNALS & FIXTURES

a. INTEGRATED HALL INDICATOR

An integrated hall indicator consisting of digital car position indicator (revealing floor position of car) and illuminated arrows indicating the arrival and departing direction, as determined by the control system shall be installed above the lift and at each landing. A two tones electronic gong shall also be provided for audible announcement of the arrival of the lift car.

The digital car position indicator shall be either of 2 character 7/8 segment type.

The direction arrows shall be of acrylic and protrude from the faceplate for lateral visibility.

The integrated hall indicator shall be of horizontal configuration. The stainless steel face plate, min. 2mm thick, of satin finish containing the digital car position indicator and direction arrows.

b. LANDING CALL STATION

Landing call station fitted with call buttons shall be installed at each landing. It shall be designed for mounting on the landing door frame or on adjacent side wall, subject to Engineers' approval.

The call buttons shall be of micro-movement type, constructed of stainless steel pressel suitable for long arduous duty. The translucent surround of the button shall illuminate to indicate acceptance of call signal. The pressel shall incorporate two light emitting diodes. The pressels shall be mounted flush with the faceplate. The faceplate shall be of stainless steel 2mm thick, fixed with tamper resistant screw.

c. CAR STATION

The car station shall be integral with the front return of the car and constructed from 1.6mm thick stainless steel plate of natural satin finish.

The hinged full height front panel of the car station shall carry the controls and indicators. The panel shall be fitted with a secret release, which can only be opened from the back of the trough. When the hinged panel is opened an isolate/ normal switch shall be available.

The car-operating panel shall contain atleast the following controls:

- Alarm button - One floor button for each floor served
- Open door button/hold on button
- Key operated car independent service switch
- Key operated fan switch
- Digital car position indicator direction arrows

All buttons shall be set flush with the panel surface for maximum resistance against abuse. When operated, a LED illuminated halo shall surround the buttons thereby informing that the call has been registered. The buttons shall be plastic pressel engraved with the appropriate floor marking.

The digital car position indicator and direction arrows shall be installed.

10.9 POWER SUPPLY & GENERAL INSTALLATIONS

a. GENERAL

The power supply at load break switch will be available at the last landing. All further wiring, controls and providing proper distribution boards, along with necessary material and accessories beyond the power supply points shall be supplied and installed by the Contractor. The electrical installation and appliances shall comply with BSEN-81: Part-I.

b. WIRING INSTALLATION

All wiring shall be carried out in accordance with the IEE regulation, NEC standard and B.S. wherever applicable.

All cables shall be PVC insulated, and if required PVC sheathed also, single or multi-core having tinned copper conductors. Cables for different voltage circuits which are run together must have the insulation rating, suitable for the highest voltage present. Wherever cables are subjected to high temperature such as termination to car light, it shall be protected by suitable heat resistant sleeve. At all terminations, cable ends shall have numbered ferrule to match with the mark on respective component and control drawings. All wiring shall be continuous between terminations.

Travelling cables between the lift well and lift car terminal boxes shall be suspended by looping over reels or by suitable clamps. The connections in the terminal boxes shall be marked for identification purposes.

Travelling flexible cables shall be fire resistant and shall comply with B.S. 6977.

c. TRUNKING AND CONDUITS

All wiring from machine room to motor controls at each floor and to other circuits shall either be run in 16 SWG galvanized steel conduit or trunking, the selection and route of which shall depend on the number of cables and ease of installation and maintenance. If trunking is installed it shall have removable covers, and the trunking finished in dark grey enamel as per B.S. 381C. Fixing arrangements of conduit of trunking shall be vibration proof suitable for the existing conditions. All connections from trunking or conduits to motors or other equipment subjected to vibration shall be with flexible galvanized steel conduit. All trunking and conduit shall be continuous throughout the length to ensure good earth continuity.

d. EARTHING

Earthing of all equipment metal work which can be subjected to dangerous voltage under normal operating and fault conditions shall be earthed in accordance with NEC Standard. One PVC insulated earth conductor of suitable size having yellow color with green tracer shall be run along the trunking or conduit as main earth. All branch circuits in conduit or trunking and other metal work shall have branch

earthing cable connected to main earth. All length of trunking shall also be bonded to main earth.

e. TESTING

Testing of electrical installations shall be carried out to the satisfaction of the Engineer in accordance with standard practice and recognized international standards/codes.

10.10 LOCAL MATERIALS

a. PIT ACCESS LADDER

Rugged steel ladders for easy access to the pits shall be provided by the lift Contractor in all pits.

b. PIT SCREEN

A suitable rigid steel screen shall be provided and fixed by the Lift Contractor at the bottom of the lift well where the counter-weight comes down on its buffers where required.

c. SEPARATOR BEAMS & WELL TRIMMING GIRDERS

Properly designed trimming girders shall be supplied and installed at proper location in Lift well by the lift contractor to suite fixing requirement of offered lift. The trimming girders installed in lift shall be of at least 200mm rolled I-beams of prime quality structural steel (ASTM A-36 or equivalent).

d. COUNTERWEIGHT

The counterweight fibers of cast iron may be locally procured.

The Contractor shall include the above items in his bid price for the lift.

11. GENERAL SPECIFICATIONS

11.1 MECHANICAL

11.1.1 The passenger elevators shall be of above stated brands of latest design and specifications with the group Control system (Duplex) or selective collective automatic operation without attendant. Digital indications and displays will be provided in the car and at the car floor landings as per technical and design specifications. The car should be housed in the elevator shaft and elevator pit available at site fulfilling the recommended safety standards and OEM installation requirements.

11.1.2 All equipment /machinery shall comply with international standards ISO 9001.

11.1.3 Level difference of the car floor and floor landing to be within tolerance of ± 5-6 mm.

11.1.4 Buffer Springs to be provided as a means of stopping the car and counter weights.

11.2 ELECTRICAL

11.2.1 The scope of supply shall include all the electrical equipment required for smooth and efficient operation of elevators.

a. The elevator electrical equipment such as circuit breakers/switch gear, motors drive control panels, car operating panels, brakes, limit switches, cables, lighting of car, push buttons, emergency switch, signaling devices and other necessary equipment for smooth operation of elevator. A three phase 4 pole main switch of rated/suitable capacity to cut off the entire power to the elevator will be provided.

b. Complete Lighting of the elevator

c. Earthing point along with earth bus bar

d. All installation/erection material required for installation and wiring of the electrical equipment and laying of cables.

e. Emergency alarm wired to machine room.

f. Emergency Light with connection to UPS battery in car .

g. Overload warning sensor

h. Emergency key opening for all landing doors.

i. Fire Switch at Ground floor.

j. Safety Gear in case of rope breaking .

k. Motor Protection with circuit breaker

l. Car Light fittings ventilation fan.

m. Up and down scrolling indicators for indication of direction of movement of car.

n. The car automatically return to home position after answering last call.

o. Auto rescue Device with UPS and battery bank

11.2.2 The operating voltage of the elevator to be mentioned by the bidder.

11.2.3 The minimum rating of the isolating circuit breaker should be 125 % of full load current of the elevator machine.

11.2.4 Motors shall be Variable Voltage Variable Frequency (VVVF) system controlled and shall be able to achieve desired speed carrying load with smooth running and stopping of elevator. The starting of the motor shall be smooth and without jerks.

11.2.5 A braking system is to be provided to hold the drive in switched off mode.

11.2.6 Door operation shall be automatic with safety interlocks.

11.2.7 The over speeding governor shall have a governor switch to interrupt the control supply in event of over speeding and the safety gear to lock the cabin mechanically to the guides in case of accident of free fall or over speeding.

11.2.8 A phase failure and reverse phase relay will be provided to prevent the elevator control panel and equipment form inadvertent phase reversal. Control supply to cut off in case of single phasing of electric supply.

11.2.9 There shall be provision of audible signals/intercom from inside the cabin in the event of elevators getting stuck due to power failure. The source of supply is from a battery source with its charging unit. Emergency Light will be provided in the cabin from batteries.

11.2.10 In the event of power supply failure provision of manual operation to be included preferably to the nearest landing floor. Necessary devices to release the brake and cut off the control supply during manual operation.

11.2.11 The Elevators shall be provided with auto rescue device that is battery powered for landing at the nearest floor and the doors open during power failure.

11.2.12 Earthing of all electrical equipment as per electrical standards from the building earth. The contractor will connect earthing grid with the available earth point

12. DESIGN REQUIREMENTS:

DRIVING MECHANISM

12.1 LIFT MACHINE

a. The lift machine shall be suitable for 415 volt 3 phase 50 Hz AC supply with a voltage variation of +10% and -10% and shall be placed directly above the hoist way on steel beams resting on machine room floor slab.

b. The lift machine shall have high efficiency and low power consumption and shall be designed to withstand peak currents in lift duties. Resilient anti vibration mountings of suitable design shall be provided to minimize noise and vibration transmission.

c. The lift machine shall be gearless type and consist of a motor, electromechanical brake, and sheave all completely mounted on a common bed plate. Roller bearings shall be provided for the sheave shaft to ensure alignment and long bearing life or as per manufacturer's standard proven design.

d. The hard alloy cast iron or steel sheave shall have rope grooves to ensure proper traction and minimum rope wear. Adequate means of lubrication shall be provided for all bearings.

e. Means for manual operation of the lift car shall be made by providing winding wheel suitably marked to indicate the direction of the movement to enable the lift car to be brought to the nearest landing.

12.2 BRAKE

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

12.3 CONTROL

12.3.1 The lifts shall have microprocessor based, simplex/duplex, selective collective/ Group Controlled AC variable voltage variable frequency (VVVF) drive with closed loop control system. The drive system shall control the starting, stopping, direction of motion, running of the lift motor and application of the brake and/or safety devices in the event of power failure or any other emergency. It shall be so designed as to ensure a smooth and constant acceleration and retardation under all operating conditions.

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

The Controller shall be complete with built in protection against the following:

a. Over current
b. Under voltage
c. Over voltage
d. Single phasing
e. Phase reversal
f. Earth leakage

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

12.4 COUNTER WEIGHT

Counter weight shall consist of cast iron weights as per manufacturers standards, contained in a structural frame Suitable metallic counter weight guard of required length shall be provided at the bottom of the hoist way.

12.5 GUIDE RAIL AND GUIDES

Guide rails of the car and counter weights shall be preferably machined section and comprise of steel toes and grooved fish plates & bolts at the ends and securely fastened to the hoist way frame by heavy steel brackets. Car and counterweight frames shall be provided with suitable lubricating system. The guide rails of the lift shall be fastened to the shaft way frame work and concrete inserts at regular intervals. Adequate packing shall be supplied by the supplier.

12.6 HOIST ROPES

The car and counterweight shall be suspended by steel wire ropes with steel wires embedded in it. The rope /belt shall be of continuous length without break or lengthened by splicing.

More than two independent wire ropes shall be used for cage and counterweight with traction drive and each of the drum drives and wire ropes shall be fixed independently to cage and counterweight.

12.7 CAR PLATFORM & FLOORING FOR ALL LIFTS

Size of car platform shall be of maximum size that could be accommodated in lift well The platform shall consist of a structural steel frame designed on the basis of rated load. Auto fan off facility shall be provided, when car is in parking position.

12.8 CAR DOORS

The car doors for Passenger lifts shall be provided with Centre opening, horizontal sliding fire rated with elegant stainless steel frame of .in brush / hairline finish.

The doors shall have automatic Center opening & closing feature. Doors shall have clear opening as per specific requirements. Infra-red sensor along the entire door height shall be provided for sensing obstruction while door closing. Also, protective leading as a backup to infra-red sensor, shall be provided, to open the door immediately on sensing impact on the door. All the car doors shall have a fire resistance of not less than 1 hour.

12.9 HOIST WAY LANDING DOORS

The Hoist Way landing doors shall have automatic opening and closing feature in association with car door. Doors shall have a clear opening as per specific requirements. Car will open in front only. Provision for emergency opening of the landing door by means of a special key should be provided at all floors. All the landing doors shall have a fire resistance of not less than 1 hour.

12.10 CAR & HOIST WAY OPERATIONS

The equipment shall be complete with electric door operator with AC VVVF drive for opening and closing of Car & Hoist way landing door. The equipment shall consist of a motor on the lift car to operate the door when the car is stopping at a landing. The Car & Hoist way doors shall be mechanically connected such that both move simultaneously for opening and closing. The Hoist way landing door shall be provided with an interlock such that:

a. It shall not be possible for the car to be started or kept in motion until all the landing doors and the car door are locked in the closed position. b) It shall not be possible to open the landing door from the landing unless the lift car is within the particular landing zone.

b. The car doors & Hoist way landing doors open automatically as the car is stopping at a landing. The closing of the car and landing door must occur before the car is set in motion.

12.11 CABIN FAN/VENTILATION

Pressure fan of approved make and of adequate size shall be provided in the car ceiling. The fan shall be on emergency supply through battery for minimum 30 min back up in case of power failure in each elevator car.

Auto fan off facility shall be provided, when the car is in parking mode. Bidder should indicate whether forced ventilation will be required in the machine room for control panel and control equipment etc.

12.12 LIGHTING

LED Light fixture of approved type and quality shall be provided in the car to provide adequate lighting in the car.

Auto light off facility shall be provided, when the car is in parking mode. Suitable outlets shall be provided on the top and bottom of the lift car to install a hand lamp during maintenance.

12.13 EMERGENCY LIGHT

Compact fluorescent lamp/LED to operate automatically and to illuminate the car for minimum 30 minutes in case of power failure shall be provided in each lift car.

12.14 ALARM BELL

An emergency alarm bell, including wiring shall be provided and connected to a plainly marked push button in the car operating panel. The alarm shall be located in the Control and the Security Room and main lift lobby.

The alarm unit shall be solid-state siren type, operated by Nickel/Cadmium maintenance free batteries to give siren when the alarm button in the car is pressed momentarily.

12.15 INSTRUCTIONS PLATE

A name plate shall be fitted in the lift car to indicate the rated capacity of the lift & instructions in English

12.16 OPERATION BUTTONS & INDICATIONS

The following operation buttons and indications shall be provided:

12.17 IN EACH LIFT CAR:

Stainless steel panel of suitable thickness flush mounted shall be provided on one side of the door having:-

a. LED illuminated push buttons of microprocessor type or touch sensitive glass type corresponding to the floors served.
b. Door open button.
c. Door Close button.
d. Emergency alarm button
e. Emergency Light
f. Two position key operated switch for 'with attendant' and 'without attendant' operation.
g. Ventilation fan ON/OFF switch with auto OFF when car is in parking mode/there are no calls to attend.
h. Built in intercom
i. Dynamic car direction display
j. Car position indicator
k. Overload warning indicator

12.18 AT LANDINGS

The landing fixtures shall be recess mounted on a base junction box in the wall by the side or on top of landing doors as required.

Each landing fixtures shall consist of micro touch type landing call buttons or touch sensitive glass with illuminated call acknowledge signal and illuminated digital type car position indicators on separate stainless steel face panels with brush /hairline finish. The call buttons shall have Braille inscription. At every landing arrival digital car position indicator with gong in indication shall be provided.

The following landing fixtures shall be provided for each lift:

a. **Lowest floor**
   - Up call button
   - Digital car position indicators

- Travel direction indicators

b. **All floors other than lowest and top most floors**
- Button up and down call buttons
- Travel direction indicators
- Digital car position indicators
- Manual by pass key switch for lift landings.

c. **The top most floor**
- Down call button
- Travel direction indictors
- Digital car position indicators
- Manual by pass key switch for lift landings.

12.19 CONTROL CABINET (PANEL) CONSTRUCTION FEATURE

Control cabinets shall be sheet steel enclosure of min. 1.6mm thick and shall be dust weather proof type Sheet steel used shall be of adequate thickness and properly braced to prevent wobbling.

Control cabinets shall be free standing floor mounting type with anti-vibratory pads.

Control cabinets shall be provided with a concealed hinged door with padlocking arrangement.

All doors, removable covers and plates shall be gasketed all around with gaskets, louvers when provided shall have screens and filters.

Cable entries shall be either from top or from bottom.

All sheets steel work shall be given standard powder coated both inside and outside. The colour of the finishing coat to be approved by Engineer-in-charge.

12.20 CABINET INTERNAL WIRING

Control cabinets shall be supplied completely wired ready for Dept. /Users external connection at the terminal blocks. All wiring shall be wired with stranded copper conductor. The control alarm and indication circuits shall be wired with stranded copper conductor of sizes not smaller than 1.5 sq.mm or as per manufacturer's standards.

Engraved core identification ferrules, marked to correspond with the wiring diagram shall be fitted at both ends of each wire Ferrules shall be fit tightly on the wires and shall not fall off when the wires are removed. Spare auxiliary contacts of all relays, contactors, etc shall be wired to terminal blocks. All wiring shall be terminated on terminal blocks using solder less crimping type tinned copper lugs. Insulated sleeves shall be provided at all the wire termination. All wiring shall be neatly bunched and dressed without affecting access to equipment mounted within

the cabinet. Wiring trough shall be provided for vertical cabinet wiring and for interconnecting wire between front and rear section of the cabinet. Terminal blocks for control indication etc shall be suitable for connecting to conductors of Dept. /Users cables of following sizes:

a. Control circuits shall be min. 1.5 sq.mm multi stranded copper conductor.
b. CT circuits: min 2.5 sq.mm multi stranded copper conductor.

Terminal blocks shall be numbered for identification and grouped according to function. Terminal block for CT secondary leads shall be provided with short circuiting and earthing facilities.

12.21 LABELS

All door mounted equipment as well as equipment mounted inside the control cabinet shall be provided with individual labels, with equipment designation engraved. Also the control cabinet shall be provided on the front with a label engraved with designation of the control cabinet as furnished by Engineer-in-charge.

12.22 EARTHING TERMINALS

Control cabinet shall be provided with two separate earthing terminals suitable to receive earthing conductors as per incoming cable size.

12.23 EARTHING

The equipment supplied shall be earthed with the following arrangement:-

a. For equipment copper conductor shall be used. The grounding pads and clamps provided shall be suitable for these conductors.

b. Two independent grounding pads at appropriate end shall be provided on the frame of motors, winding machine, the frame of the control panels etc

c. The exposed metal parts of electrical apparatus installed in a lift car shall be sufficiently bonded and earthed.

d. One side of the secondary winding of all transformers and their cases shall be earthed.

e. Flexible and screwed conduits shall be properly earthed.

13. SAFETY DEVICES

13.1 SELF LEVELING

The lift shall be provided with a self leveling feature within ± 5 mm.

13.2 TERMINAL AND FINAL LIMITS

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

13.3 TERMINAL BUFFERS

Suitable spring buffers shall be installed/ mounted on steel channels as a means of stopping the car & counter weight.

13.4 INTERLOCKING

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

13.5 CAR SAFETY AND GOVERNOR

The car safety shall be provided to stop the car whenever excessive descending speed is attained

13.6 FIREMAN SWITCH

Each independent lift shall have a Fireman switch with glass front for access by the Firemen. The operation of this switch shall cancel all calls to this lift and will stop at the next nearest landing if traveling upwards. The doors will not open at this landing and the lift will return to the ground floor. In case the lift is traveling downwards when the fireman's switch is operated it will go straight to the ground floor bypassing all calls .The emergency stop button inside the car shall be rendered inoperative.

The fireman's switch shall be located adjacent to the lift opening at the lowest terminal floor and shall be at a height of approximately 2 m above the floor level.

14. INSTALLATION

14.1 GENERAL

The installation of lift equipment including its electrical installations shall comply with applicable standards, manufacturers' instructions and recommendations. Electrical work required during installation shall comply with NFPA 70 or approved equivalent.

The scope of installation and civil works shall include the following:

a. Providing and/or cutting all necessary holes, chases and openings and making good after installation of equipment.
b. Supplying and fixing all supports, beams, ladders etc. necessary for the installation of the machinery, guide brackets, doors, buffers etc.
c. Furnishing all necessary cement and/or concrete for 'grouting-in' brackets, bolts, etc.
d. Providing and fixing suitable scaffolding and protection of work in progress.

14.2 WELDED CONSTRUCTION

Welded construction shall be provided for installation of Lift wherever bolted connections are not required for subsequent removal or for normal operation, adjustment, inspection, maintenance or replacement of worn parts. Welding workmanship and qualification of welding operators shall comply with American Welding Society (AWS) standards or approved equivalent.

14.3 SOUND ISOLATION

Rotating and vibrating Lift equipment and components shall be mounted on vibration - absorption mounts designed to effectively prevent the transmission of vibrations of the structure and thereby eliminate the sources of structure - borne noise.

14.4 LUBRICATION

Operating parts of the system including ropes, guides, etc., shall be lubricated as per manufacturer's recommendation.

14.5 ALIGNMENT

Proper co-ordination of installation of hoistway entrances with the installation of elevators' guide rails shall be done for accurate alignment of entrances. Wherever possible the final adjustment of sills and doors shall be delayed until the car is operable in the shaft. The clearance shall be reduced to minimum, safe, workable dimensions at each landing.

14.6 SILLS

Sill unit shall be set at each floor landing accurately aligned, slightly above structural floor, to suit level of floor finish.

14.7 PAINTING, RETOUCHING & RE-FINISHING

After completion of installation and testing to the satisfaction of the Engineer-in-Charge, the Contractor shall carryout all finishing, retouching and refinishing operation on the entire equipment .accessories and installation matching the original finish in an approved way. All auxiliary works carried out by the Contractor as the finished installation shall also be painted in the approved standard after applying anticorrosive base.

15. TESTING AND INSPECTION REQUIREMENTS

Testing after installation shall be carried out for the lift before it is put into normal service in accordance with B.S. 5655 Part 10 and appropriate certificate shall be completed. The tests shall include but be not limited to the following:

i. Functioning of all systems/devices and controller
ii. Operational test of all safeties

iii. Operational test for motor
iv. Earth fault test on cable/controller & Switchgears
v. Insulation resistance test for cables

A thorough inspection of all equipment shall also be under taken at this stage and appropriate certificate shall be completed.

Lift shall be periodically re-examined during defect liability period / warranty period and at the end of warranty/defect liability period appropriate certificate shall be completed to assess operational performance.

All equipment and personnel required to complete testing and inspection shall be provided by the Contractor. All erection work and tests shall be performed by the Contractor's erectors who shall be suitably qualified and experienced persons to the satisfaction of the Engineer.

16. MEASUREMENT AND PAYMENT

16.1 GENERAL

Except otherwise specified herein or elsewhere in the Contract Document, no separate-measurement and payment will be made for the under mentioned works related to the relevant item of the Schedule of Prices. The cost thereof shall be deemed to have been included in the quoted unit rates of the respective items of the Bill of Quantity (BOQ):

a. Designing of Lift and submission of manufacturer's data, specification, diagram and drawings, installation, operation and maintenance manuals etc.

b. Painting and finishes of equipment.

c. Supply of accessories including guides, supports, brackets, trimming girders, trap doors, pit screen, pit access ladder, safety devices, controls, installation equipments, miscellaneous tools, winches, scaffolding, etc., required for proper erection of Lift as recommended by the manufacturer.

d. Handling and proper storage of equipment prior to installation.

e. Provision of necessary guidance and supervision for the Civil works, which will be carried out for lift installation.

f. Provision of any hole cutting in slab or chipping of concrete surfaces required for proper installation/erection of lift.

g. Rectification of any damage done to the civil works for erection or other purposes.

h. Testing and commissioning of lift after installation including supply of requisite manpower and testing/tools/instruments and completion of documentation.

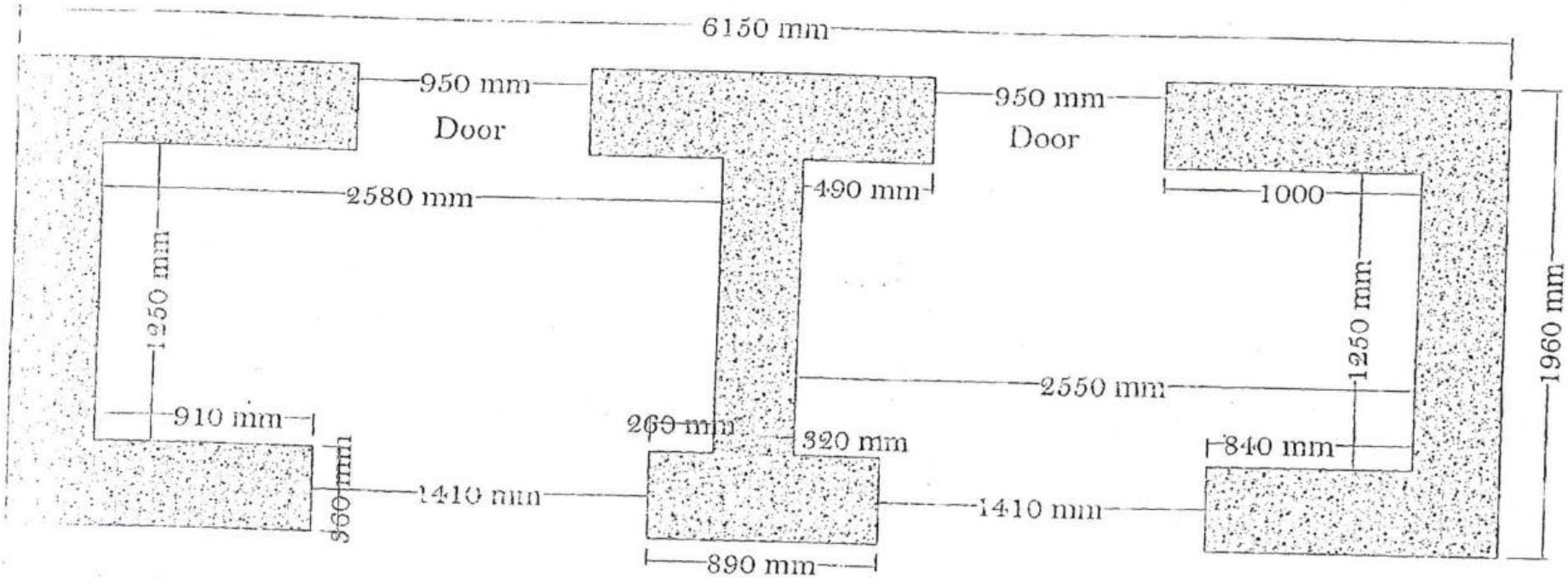
i. Training of NTC personnel for operation and maintenance of equipment.

j. Operation & maintenance of the work during defect liability period / warranty period including supply of necessary spare/other material and maintenance personnel needed to keep the Lift in perfect operating condition.

16.2 PAYMENT

Payment shall be made at the contract rate entered in the Bill of Quantity (BOQ) for the items accepted/verified by the Engineer.

LIFT WELL PLAN INSTALLED AT 6-RACE COURSE ROAD LAHORE



Annex-E

COMMERCIAL COMPLIANCE STATEMENT

Bidder shall submit this form duly filed and signed with the bid.

S.No.	Description	Complied	Not Complied	Partially complied	Remarks
1	General , Scope of Work				
2	Eligibility conditions of Bidders				
3	Cost of tendering				
4	Clarifications of Tender Documents				
5.	Amendment of Tender Documents				
6.	Preparation of Bid				
7.	Language of Bid Documents				
8.	Price				
9	Bid Security				
10	Validity of Bids				
11	Deadline for submission of bid				
12	Modification & withdrawal of bid				
13	Opening of Bid				
14.	Responsiveness of Bids				
15.	Evaluation Criteria				
16.	Clarification/Corrections of bid				
17.	Commercial Compliance Statement				
18.	Variation Order & Repeat Order				
19.	Award Criteria & NTC's Right				
20.	Engineering Survey & System design				
	Contract Conditions				
1	Performance Security				
2	Contractor responsibilities				
3	Transportation & Packing				
4	Time for Completion				
5	Warranty / Services				
6	Provisional Acceptance Certificate				
7	Pre-shipment Inspection				
8	Terms of Payment				
9.	Final Acceptance Certificate				
10.	Default by contractor				
11.	Arbitration & Amicable Law				
12	Force Majeure				
13	Termination for Insolvency				
14	Termination for convenience				
15	Ultimate Consignee				
16	Debarment / blacklisting of firm				

Annex-F

BID SECURITY FORMAT

Bank Guarantee No.----------
Dated at Islamabad, the ----------
Amount_____
Validity _____

To,

THE MANAGING DIRECTOR,
NATIONAL TELECOMMUNICATION CORPORATION
HEAD QUARTERS G-5/2
ISLAMABAD.

Dear Sir,

WHEREAS M/S _____ (hereinafter called the Tenderer) have requested us through _____ Bank Ltd., to furnish Bid Security by way of Bank Guarantee in your favour in the sum of _____ (IN FIGURE) _____ (IN WORDS) against your Tender Notice No. _____ dated _____for supply / installation of_____.

WE HEREBY AGREE AND UNDERTAKE:

i. To make unconditional payment _____ to you on demand without further question or reference to the Tenderer in case of withdrawal or modification of bid or any default or non-execution of the Contract or refusal to accept order by the Tenderer from the date of opening of bids until the expiry of the validity of their offer,

iii. To keep this guarantee in full force from (date) _____ upto _____ (date) _____ the date until which the Tenderer's offer is valid.

iii. To extend the period of guarantee if such extension be necessary beyond the date stated in para (ii) and as so desired by the tenderer.

Any claim arising out of this guarantee must be lodged with this Bank within the period the guarantee is valid and before the date of its expiry. After this date the guarantee will be considered null and void and should be returned to us.

Yours faithfully,

Name of the Bank: _____
Authorized officer's Signature & Seal:_____

Annex-G

BANK GUARANTEE FOR PERFORMANCE SECURITY

Bank Guarantee No.----------
Date of Issue ----------
Valid upto ----------
Value (Rs.) ----------

FROM: _____
TO,

THE MANAGING DIRECTOR,
NATIONAL TELECOMMUNICATION CORPORATION
HEAD QUARTERS G-5/2
ISLAMABAD.

SUBJECT: B/G AND DATE FOR _____ ON BEHALF OF _____FOR DUE AND FAITHFUL PERFORMANCE ORDER NO. _____ DATED_____.

Whereas M/s_____(hereinafter called the Supplier) have requested us to furnish a Bank Guarantee in your favour in the sum_____(IN WORDS) _____as performance security against order No.._____dated_____to be concluded between the Supplier and National Telecommunication Corporation HQs G-5/2 Islamabad.

WE HEREBY AGREE:

1). To make an un-conditional payment of _____ to you on demand without any further question or reference to the Supplier upon failure of the Supplier to perform the Order for which you will be the sole judge.

2). To keep this guarantee valid in full force from this date upto the time of the due and faithful completion of the Order under reference (the schedule of implementation shall be as described in the Purchase order and its subsequent amendments) or till_____ whichever date is later. The faithful completion of the order by the Supplier will be intimated by the NTC.

3). To extend the period of the enforceability of this guarantee if such extension be necessary or desired by you of us. All claims thereunder must be submitted to the Bank of_____ on or before the expiry date mentioned in this guarantee are the date mentioned in its extensions issued from time to time, after which this guarantee will become null and void and should be returned to us. Irrespective of its return, we shall consider ourselves fully discharged from any obligation there under after the said expiry date.

Dated This Day of

Authorized Signature: _____
& Seal of bank
_____
_____

Witness: _____
_____

Sworn & Sign before me
this day of.... .....
by._____

Annex-H

DECLARATION OF BENEFICIAL OWNER IFNORMATION

Declaration of Ultimate Beneficial Owners Information for Public Procurement Contracts

1. Name
2. Father's Name/Spouse's Name
3. CNIC/NICOP/Passport no.
4. Nationality
5. Residential address
6. Email address
7. Date on which shareholding, control or interest acquired in the business.
8. In case of indirect shareholding, control or interest being exercised through intermediary companies, entities or other legal persons or legal arrangements in the chain of ownership or control, following additional particulars to be provided:

1	2	3	4	5	6	7	8	9	10
Name	Legal form (Company/Limited Liability Partnership/Association of Persons/Single Member Company/ Partnership Firm/ Trust/Any other individual, body corporate (to be specified))	Date of incorporation/	Name of registering authority	Business Address	Country	Email address	Percentage of shareholding, control or interest of BO in the legal person or legal arrangement	Percentage of shareholding, control or interest of legal person or legal arrangement in the Company	Identity of Natural Person who ultimately owns or controls the legal person or arrangement

9. Information about the Board of Directors (details shall be provided regarding number of shares in the capital of the company as set opposite respective names).

1	2	3	4	5	6	7	8
Name and surname (In Block Letters)	CNIC No. (in case of foreigner, Passport No)	Father's/ Husband's Name in full	Current Nationality	Any other Nationality (ies)	Occupation	Residential address in full or the registered/ principal office address for a subscriber other than natural person	Number of shares taken by each subscriber (in figures and words)
		Total number of shares taken (in figures and words)					

10. Any other information incidental to or relevant to Beneficial Owner(s).

Name & signature
(Person authorized to issue notice on behalf of the company)