



# NATIONAL INSTITUTES OF HEALTH

UNIVERSITY OF THE PHILIPPINES MANILA

## Terms of Reference

<As of September 07, 2022>

### Name of Project: (as applicable)

**Supply, Delivery, Installation, Testing, and Commissioning of two (2) sets of brand-new service elevators with two (2) sets single lane turnstile access system including extended comprehensive maintenance for the new National Institutes of Health (NIH) Building, University of the Philippines Manila**

### Requirements

#### 1. Components

This shall include the following:

1. Completed program of work and layout plans for the installation of service elevators including details and wiring diagrams. All design computation and technical specifications for all components of the project. Such plans, designs, and specifications shall be based on existing laws and elevator requirements and shall be subject to review and approval by the University. The Contract Documents (CD) phases of the engineering design shall continue after the bid is awarded. It shall likewise be subject to review and approval by the University.
2. Supply and installation of the two (2) sets of brand-new service elevators of the same specifications. Product specifications shall be consistent as seen on the company website.
3. Supply and installation of the two (2) sets of single-lane Turnstile Access System of the same specifications. Product specifications shall be consistent as seen on the company website.
4. Equipment inclusion: Airconditioning systems, LCD Multimedia Monitor - two (2) units per elevator, corner mount CCTV camera - one (1) unit per elevator, Elevator RFID Card Reader Control System, elevator air purifier - one (1) unit per elevator.
5. Warranty, extended warranty, and comprehensive maintenance with regular visits and inspection of each unit.
6. Other incidental expenses which include all material and equipment testing, as-built plans, and other requirements that are on the account of the winning bidder.
7. Compliance with and securing all applicable permits/licensing and documentary requirements.
8. Submission of other requirements:
  - a. Brochures
  - b. Certificate of Site Inspection
  - c. List of Service Centers in Metro Manila and at least ten (10) years in the Philippine Market
  - d. Required licenses of certification (Certificate of Authorized installer/supplier of the brand being offered)

#### 2. Scope of Work

This shall include the following:

1. The works to be carried out by the Contractor shall comprise the supply and installation of all necessary components, provision of all necessary labor and training of a minimum of five (5) personnel, testing, commissioning, and hand-over of two (2) units brand-new service elevators in a complete and satisfactory condition in all accordance with the Contract.

#### 3. Financial Proposal

The Financial Proposal shall be comprised of all the required documents for infrastructure projects under Section 25.3 (b) of the IRR of R.A 9184, enumerated as follows:

1. Lump sum bid prices which shall include the detailed engineering cost in the Bill of Quantities (BOQ) in the prescribed bid form, not to exceed **Twenty Million Pesos (Php 20,000,000.00)**



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2. Detailed estimates including a summary sheet indicating the unit prices of installation materials, labor rates, testing, and equipment rentals in coming up with the bid
3. Cash flow by the quarter and payments schedule

## 4. Technical Specifications

The type of elevator to be supplied and installed for the new National Institutes of Health Building should be brand new, non-reconditioned with two-panel door opening in front moving in different direction (center opening). The elevator system should have at least five or more wire ropes for safety reasons and sufficient weight of counterweight (usually half of the full load capacity). Hoistway doors should be mechanically controlled by a clutch assembly mounted on the car door with electromechanical interlock at the hoistway door to prevent accidental opening when the elevator car is not in front.

The elevator car door should also have mechanical safety edges, electric eye (presence sensor), proximity switches and door restrictor to prevent opening of door when the car exceeds 18" from the floor landing. Traction motor mechanism should have a braking system capable of holding 125% of its total load capacity. Other safety devices should be built in the elevator system like governor on top and safeties/safety lever mounted under the elevator car safety. The elevator car should also be provided with handrail inside, and emergency communication.

The pit of the elevator shaft should have an oil type buffer cylinder and sump pit water pump. Guide rail should be of T-type fixed and clip bolted rail bucket, aligned using shim for smooth and efficient operation. Standard and main structural members should be automatically incorporated in the elevator car such as the sling which includes vertical stiles, cross head, safety plank, platen plate, platform bolted and stabilized by brace rods and adequately sized toe guard.

### 4.1 Two (2) Sets Brand-New Service Elevators

<b>A. General Specifications</b>	
Type	Service Elevator
Quantity	2
Fireman's Lift Rating	2 hours fire resistant
Rated Capacity (kg)	Minimum of 2500kg
Speed (m/s)	Minimum of 1.75
No. of Stops	16 stops for SE1, 18 stops for SE2
No. of Openings	16 openings for SE1, 18 openings for SE2 (all front)
Floor Designation	SE1 – GF to 17F SE2 – LG to 18F
Travel (m)	Minimum of 70
Shaft Size (W X D) per lift	2750mm x 2850mm
Shaft Size	Fixed
Headroom (mm)	Minimum of 4500
Pit Depth (mm)	Minimum of 1600
Machine Room Location	Machine Room Less
Power Supply (Main)	400V, 3Phase, 60 Hz
<b>B. Lift Car</b>	
Car Size (WxDxH) Structural	2200mm (min.) x 2200mm (min.) x 2500mm (min.)
Door Type	Center Opening 2 Panels
Door Size (WxH)	1200mm (min.) x 2100mm (min.)
Door Panel	Hairline Stainless Steel-brushed





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Door Sill	Aluminum
Front Wall Finishes	Hairline Stainless Steel-brushed
Rear Wall Finishes	Hairline Stainless Steel-brushed
Side Wall Finishes	Hairline Stainless Steel-brushed
Handrails	Hairline Stainless Steel-brushed
COP Buttons	Touchless Operation Buttons or Manual Push Buttons
No. of Cop/s Location	1/Side
COP Faceplate	Hairline Stainless Steel-brushed
Platform Decoration	Artificial Granite (Grey)
Car Ceiling & Lighting	Stainless Steel; Spotlights Arrangement
Handicapped Car Operating Panel	Mechanical Push Buttons Horizontal Panel with Braille
<b>C. Lift Lobby</b>	
Landing Door Panel Finishes (Main Floor/s)	Hairline Stainless Steel
Landing Door Panel Finishes (Typical Floors)	Hairline Stainless Steel
Landing Door Frame	50mm x 50mm Stainless Steel Box Frame
LOP Buttons	Hairline Stainless Steel with Directional Arrow Indicator
LOP Faceplate	Hairline Stainless Steel
Fixtures	Touchless Operation Buttons or Manual Push Buttons
Car Position Indicator (CPI)	Combined Car Position and Direction – ELOP
Landing Position Indicator (Main Floor/s)	Combined Car Position and Direction – ELOP
Landing Position Indicator (Typical Floors)	Combined Car Position and Direction – ELOP
<b>D. Voltage Regulator</b>	
Input Voltage	260V – 450V
Output Voltage	380V
Supply Frequency	50/60Hz
Insulation Resistance	$\geq 2M\Omega$
Voltage Regulation Mode	Independent phase regulation for three phase
Waveform Distortion	Nil
Insulation Class	H class
Efficiency	>97% on full load
Overload Rating	Withstand 200% overload in short time
Protection class	IP20 (indoor)
Electrical safety	
Operational Temperature	
Functions	Power-on style, malfunction protection, short circuit protection, lack of phase protection, over-voltage shutdown, under voltage shutdown, safe start
<b>E. Standard Control Features Included</b>	
Emergency Alarm connected to the building management system and the service company	
Final Door Timer	
Light Curtain	



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Anti-Nuisance AN3
Full Load Bypass
Out of Service Feature
3-Way Intercom
Coaxial traveling cable for CCTV
CCTV camera/Corner mount one (1) unit per elevator At least 1000p/2MP HD-TV1 AHD CVI Analog CCTV, IR 2.9mm Fixed/Up to 104 degrees
Emergency Power Operation
Auto Evacuation Nearest Floor
Voice Signalization
LCD Multi-Media Display Two (2) units per elevator At least 10 inches screen size Thin film transistor True Colour (24-bit colour) At least 1000x700 resolution Aspect Ration 4:3 At least Viewing Area 200x150 (WxH mm) At least Horizontal viewing angle =88/-88 Luminance at least 400 Contrast Ratio 700:1 Operating Voltage (VDC) 12 Flush Mount, Surface Mount 250x200x30 Dimension at least 250x200x30 (WxHxD mm) Ethernet network interface I/O Interface DC-In, HDMI, USB, Audio-Out
Hall Lantern
Card Reader (RFID) Access System including the reader in the turnstile and reader inside the elevator w/ at least 100 RFID cards and may include Centralized Access Control System to be managed by a system administrator
Elevator Lobby Access Control (2 sets of Single Lane) 2 lanes with the same width as the elevator opening Bi-Directional with glass/stainless railings for sides
Air conditioning systems Size: at least 500x600x500mm Rated Cooling capacity: at least 3500W Air Circulation: Wind rating at least 400-500 M3/h Cool Running Current: At least 5A Controlling mode: Manual or Auto Running
Elevator Air Purifier (1) unit per elevator with HEPA filter
Earthquake/seismic sensor device or system placed in suitable locations
<b>F. Others</b>
<ol style="list-style-type: none"> <li>1. Supply and installation of brand-new two (2) air conditioning systems (one (1) per elevator)</li> <li>2. Compatible with access control system and destination control from the same supplier.</li> <li>3. Service Elevators should be ready for building management system (BMS) connection.</li> <li>4. Regenerative Drive (for LEED compliance) and associated controllers</li> </ol>





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## 4.2. Maintenance

Twenty-four (24) months comprehensive maintenance (service and parts), free of charge.

For Comprehensive Maintenance, the Contractor is responsible to regularly check, inspect, and preventatively maintain the equipment and to perform the repair work described herein.

### A. Inspection and Preventative Maintenance

The Contractor shall commit to perform on the aforementioned equipment regular inspection and preventative maintenance. This comprises:

#### a. For Lifts

- i. Functional checking and adjustment of the drive unit, means of suspension, gearbox, brakes, traction sheave and drum, ropes, traction media, deflector sheave, hoist way doors, and guiderails of the lift equipment;
- ii. Greasing the aforementioned subassemblies to the extent appropriate for the use made of the lift equipment;
- iii. Checking and adjustment of the travel properties of the lift equipment, especially of their stopping accuracy;
- iv. Visual and functional check of the switching, control, monitoring, and other safety equipment, and of the display and lighting equipment;
- v. Checking of the lift equipment for functioning and damage;
- vi. Checking the oil level of the drive unit;
- vii. To the extent required to preserve their functioning, cleaning the aforementioned subassemblies of the lift equipment of dirt originating within the equipment;
- viii. Cleaning on lift machine room, car top, and checking if the pit condition is dry.

### B. Operational Failures

The Contractor shall attend to operational failures which are detected during regular inspections and preventative maintenance, or which occur between them and are reported to the client/end-user.

### C. Repairs

All repairs required to the equipment as a result of normal use shall be carried out under the terms of the Contract. Repairs that cannot be undertaken during the routine maintenance program shall be planned and carried out by the Contractor at a convenient time agreed by the parties.

## 5. Codes and Standards

The project shall be designed, engineered, installed tested, commissioned and handed over in conformity with the general policies of the University of the Philippines and with the latest editions of the Philippine Society of Mechanical Engineers (PSME) Code and other relevant codes and standards on elevator installation and instruction.

## 6. Installation and Workmanship



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Personnel responsible for the supply and installation of elevator should be specialized and highly skilled in their respective trades, performing all labor according to first-class standards. A full-time engineer/architect shall be assigned at the job site during the construction of the project. All work to be subcontracted shall be declared by the supply and installation contractor and shall be approved by the University and its respective technical offices. Tapping for utilities such as power supply, shall be coordinated with their respective utilities /service provider/companies, and all works involved, including access to utilities tapping point. Excavation, removal of obstruction, concrete breaking, and restoration of affected areas, shall be coordinated and included in the scope of work and cost of the project.

## 6.1 Pre-Installation Phase

- Secure all necessary government permits. All incidentals free shall be included in the cost estimate of the elevator installation project
- Preparation of PERT-CPM for the construction phase
- Provide all other necessary documents that shall be required by the end-user or the Campus Planning, Development and Maintenance Office (CPDMO)

## 6.2 Installation Phase

- Implement all works indicated in the approved installation drawing plan and documents. All revisions and deviations from the approved plans, especially if it shall impact the overall cost of the project, shall be subject for approval.
- Installation of sub-meter (if applicable)
- Install the elevator unit and its necessary auxiliaries, complete with finishes, resulting in operable, usable, and compliant with applicable codes and standards.
- Conduct all necessary tests and issue report results.

## 6.3 Post-installation phase and Commissioning

### Preparation of as-built plans

- Turn-over of all manuals, certificates and warranties of installed items. The certifications for the elevator shall be submitted by the subcontractor or supplier to the winning contractor. All certifications, manuals, and warranties shall be given to the end-user.
- Training: Operation of turnstile elevators minimum of five (5) personnel for 8 hours/1 day
- Actual test and commissioning of the newly installed elevator unit
- Submission of Permit to Operate, and elevator test results

## 7. Requirement/s if awarded the contract:

- a. Delivery Period: Within One Hundred Twenty (120) Calendar Days from acceptance of Notice to Proceed
- b. Installation Period/Place: Within Ninety (90) Calendar Days from the date of delivery
- c. Testing and Commissioning Period: Within Thirty (30) calendar days after installation. Provision of Permit to Operate c/o winning bidder
- d. Delivery Place/Installation site: New National Institute of Health Building, University of the Philippines Manila

## 8. Warranty Period/Coverage of Warranty

Defects found within a period of a minimum of twenty-four (24) months after acceptance of handover due to faults in material and/or workmanship, the Contractor shall make all repairs and do all necessary work to correct the defective material/work. Such repairs and corrective works shall commence within a reasonable time after receipt by the Contractor or notice from the END USER of such faults in materials, works, and/or workmanship. Any part or material found to be defective within this period will be repaired and replaced by the Contractor free of charge except when such defect is attributed to (a) incorrect operation; (b) mishandling; (c) inadequate and improper storage and protection before, during and after installation; (d) repair and maintenance conducted by persons other than the SUPPLIER's personnel; (e) defective builder's





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work or electrical installation by other and (f) typhoon, water ingress, flooding, and other related cases. The warranty period for the repaired and/or replaced part or material shall remain valid within the period of general warranty as above indicated.

A six (6) year extended Comprehensive Maintenance (service and parts) Agreement or equivalent agreement to be included in the contract annex as a stand-alone agreement contract.

Required manuals:

1. Maintenance manuals
2. Operation manual
3. Quality Control Plan
4. Health and Safety Program of the Installer (PPE, Med kit, Medical check-up/testing as required for new normal, etc.)

Training (no. of days), no. of employee, and place: Operation of Turnstile Elevators minimum of 5 personnel for 8 hours or 1 day

## 9. Mode of Payment

The University shall pay the winning contractor progress payments based on billings for actual work accomplishment, as certified by the Campus, Planning, Development, and Maintenance Office (CPDMO). In no case shall the progress billing be made more than once every thirty (30) calendar days. Material or equipment delivered on the site but not completely put in place or used in the project shall not be included in payment.

All progress payments shall be subject to retention of ten percent (10%) based on the amount due to the winning elevator supply and installation contractor prior to any deduction. The total retention money shall be released only upon final acceptance of the project. The winning contractor on the elevator supply and installation may, however, request for its release prior to Final Acceptance subject to the guidelines set forth in R.A 9184 and its Implementing Rules and Regulations.

The winning contractor on the elevator supply and installation may request in writing, which must be submitted to form part of the contract documents, for an **advance payment equivalent to fifteen percent (15%) of the Total Contract Price**. The advance payment shall be made once the contractor submits the actual approved design and the issuance of the Notice of Site Possession. The contractor shall also issue its irrevocable standby letter of credit from a reputable bank acceptable to the University, or GSIS Surety Bond of equipment value, within fifteen (15) days from the signing of the Contract Agreement to cover said advanced payment.

The First Payment/Progress Billing shall have an accomplishment of at least 20% and consecutive progress billing may be submitted every month by the contractor afterward.

The following documents are needed in the processing of payments.

For Progress Billing:

- Request for payment by the design and build contractor
- Accomplishment Report
- Contract
- Notice of Award
- Notice to Proceed and Notice of Site Possession
- Photographs of original site conditions (for First Billing only)
- Photographs of work accomplished including updated project tarpaulin (COA format)
- Contractor's affidavit



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<ul style="list-style-type: none"> <li>• Approved extension, suspension, and resumption order documents (if any)</li> <li>• Bill of Materials and Cost Estimate</li> <li>• Payment of utilities (power and water consumption during construction paid to the University of the Philippines Manila Cash office if any)</li> </ul>	
<p>Note: The design and build contractor can bill the University up to a maximum of 95% accomplishment in which case the project must be inspected for preparation of a punch list.</p>	
<p>Payment Terms:</p>	
BILLING PARTICULARS	CONDITION REQUIREMENTS
Advance Payment	Equivalent to 15% of the accepted contract amount
Progress Payment	The 75% payment shall be subject to progress billing with proper documentation of the progress of the works and submission of the Statement of Works Accomplished
Final Payment	Remaining 10% shall be released upon completion of the project including testing and commissioning

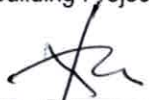
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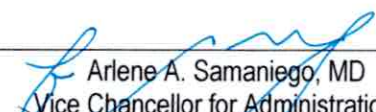
  
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