

# TERMS OF REFERENCE (TOR)

## **A. Project Title**

Replacement of two Passenger Elevators at UN House, Maseru, Lesotho

## **B. Project Description**

The United Nations in partnership with The World Bank has launched the sustainable energy for all initiative with three main objectives to be achieved by 2030. One of the objectives of this initiative is to double the global rate of improvement in energy efficiency. It is because of these efforts that the United Nations Agencies in Lesotho are in the process of implementing energy efficient technologies at UN House, Maseru, Lesotho.

The UN House built in 1994 is a symmetrical building that occupies an area of 5541 m<sup>2</sup> distributed over 5 floors, with 2 elevators and 3 staircases. Approximately 210 staff members work in the building during any given day with approximately +/- 50 visitors accessing the building during any given day.

### **Purpose:**

UNDP on behalf of UN Agencies housed at UN house is inviting legally registered and experienced companies to submit their bids for the delivery, installation, and commissioning of two 800kg passenger elevators, at UN House, Maseru Lesotho.

## **C. Scope of Work**

United Nations Lesotho requires the services of a registered and qualified elevator company to remove two existing elevators at UN house Maseru and to supply and install new elevators including the cars for the elevators. The new elevators supplied are to be most recent models, incorporate the latest technologies and have modern interiors. The proposal must include 2 years warranty period and 3 years fully comprehensive maintenance plan. The activities for the contracted company will briefly include but not limited to the following:

- i. Removal and disposal of the existing elevators
- ii. Supply, installation, and commissioning of new passenger elevators
- iii. Provide Electrical work related to project, including all electrical work required between the elevator and the Distribution Board (DB board), as

well as the required work within the DB board

- iv. Builder's work and painting related to door openings and any modification to the floor tiles at elevator entrance
- v. Provide comprehensive maintenance for the installed elevators

The contractor shall develop a proposed sequenced phased construction schedule that identifies how the existing elevators are to be replaced with the new elevators without jeopardizing the security of the facility, inconvenience to staff and minimize the required downtime.

The contractor will also be required to comply with the following:

- Ensure that the elevator replacement work carried out will comply with the latest standards such as EN 81-20 and EN 81-50 and in accordance with SANS regulations - SANS1545-1 for electric passenger elevators.
- Ensure that the elevator replacement works are carried out in a programmed sequence in terms of a documented plan.
- Ensure that the established performance levels for the elevator replacement are achieved and maintained.
- Ensure that the elevator replacement works are carried out with minimum disruption and discomfort to UN staff and visitors.
- Ensure responsible and effective process of risk assessment and risk management during the elevator replacement works.
- Ensure prompt and effective support structure to deal with all matters during the elevator replacement.
- Ensure installation and commissioning of elevators, which must include the issuing of relevant reports and certifications – Certificate of commissioning acceptance test for electric elevators, that must be done by an independent SANAS registered elevator inspector.

## 1. Stages of Project Implementation

<b>The work must be carried out in full compliance with applicable national standards and regulations: SANS 21-1:2009/EN 115-1:2008; SANS 21-2:2016/EN 115-2:2010; SANS 1543; SANS 1545; SANS 4344:2005/ISO 4344:2004; SANS 14798:2009/ISO 14798:2009; SATR 25743:2010/ISO/TR 25743:2010; SANS 25745-1:2013/ISO 25745-1:2012; SANS 50081; SANS 53015:2010/EN 13015:2001; ARP 11071-1:2008/ISO/TR 11071-1:2004;</b>		
No	Stage	Description

1	Delivery, installation, and commissioning of two passenger elevators	<p>Site inspection and preparation of technical report.</p> <p>Elaboration of the technical design in accordance with technical specification below and in full compliance with standards specified below.</p> <p>The works should not involve changes to the architectural part and technical and economic indicators of the building.</p> <p>Prepared design documentation package must contain technical documentation under the following chapters:</p> <ul style="list-style-type: none"> <li>• Detailed design of proposed elevators</li> <li>• Technological concept (elevator equipment)</li> <li>• Electric installations</li> <li>• Dispatching</li> <li>• Explanatory note</li> <li>• Cost estimate documentation</li> <li>• Construction method statements</li> <li>• Technical report</li> </ul>
2	Delivery of equipment to the site	<p>The equipment shall be delivered to the site with the address indicated below.</p> <p>In accordance with minimum technical requirements to the equipment</p> <p>The equipment to be installed must be certificate of compliance with the technical regulations for elevators and safety components and meet technical standards.</p>
3	Decommissioning of old elevators and Installation of New elevators	<p>Removal of old elevators and installation of new passenger elevators strictly in accordance with aforementioned standards and including all preliminary required works for the proper , safe and successful installation like cleaning the Elevator concrete shafts, prepare shafts surfaces to properly accommodate the elevator parts including scaffolding material and structure erecting services, as well any other structural works required by the manufacturer for the proper and safe installation of the elevators.</p> <p>Execution of works in the operated building, without stopping operation of the building for the period of carrying out works.</p> <p>The Contractor is required to remove the existing units and safely dispose of. A disposal certificate will be required.</p> <p>All types of construction debris should be collected and disposed properly.</p>
4	Preparation and commissioning of the elevators:	<p>Works must be conducted in accordance with, and comply with, the applicable national regulatory framework, including applicable environmental, labor, building and safety regulations. The obligation to comply with national law vests solely with the contractor.</p> <p>Technical certification and conformance assessment with technical regulations.</p>

5	Training	The Contractor is obliged to train the staff of the building owner on the operation of elevators, support preparing and maintaining of the necessary documentation in accordance with applicable operating regulatory documents (documentation on labor protection, support in preparing and submitting the Declaration of Conformity, etc), support in search and the conclusion of the contract with the relevant organization on service of elevators
6	Warranty and Maintenance	2 years warrantee and free maintenance on civil works and elevator parts effective from the date of the completion certificate.
7	Comprehensive Maintenance Plan	<p><b>A detailed Comprehensive Maintenance Plan starting from the end of the 2-year free maintenance period ensuring the following:</b></p> <ul style="list-style-type: none"> <li>• The safety and comfort of passengers using the equipment.</li> <li>• The accuracy and reliability of the equipment performance.</li> <li>• That preventative maintenance is always carried out.</li> <li>• That the equipment and associated spaces are always kept clean and presentable</li> </ul> <p>24/7 maintenance as required and confirm that a certified maintenance staff with the necessary equipment and parts, are available for the delivering of all compulsory and ad hoc maintenance in Maseru</p>

## 2. Technical Specifications

Category	Minimum Requirement / Specification
<b>Preamble</b>	Supply, install, test, commission, maintain, and manufacturer warranty (full package electrical lift)
	The supplier should be direct agent for the mother company or exclusive distributor, not be broker, the supplier should present official written documentation duly endorsed from the Manufacturer and/or the main importer
	All lift major components including motor, controller, all safety devices, ropes, car, doors, should be manufactured by the mother company with indicating certificates and component list showing all manufactured by the same mother company (factory) from which lift is finally shipped. Price shall include all related material and electrical works related to lift with the following specifications:
	The contractor is obliged to execute the works according to South Africa and Lesotho laws & Standards that is enforced in this domain as well to secure all relevant documentations required
<b>Type</b>	Machine less Electric elevator - Passenger lift
<b>Quantity</b>	2 Elevators
<b>Capacity</b>	600 Kg / 8 persons

<b>Velocity</b>	1 m/s
<b>Drive</b>	VVVF – Closed Loop
<b>No. of Car entrance:</b>	1
<b>No. of Stops:</b>	5
<b>No of Doors</b>	5 in line
<b>Floor Numbering</b>	GF, 1, 2, 3, 4
<b>Travel Height</b>	Approximately 20m
<b>Structure</b>	Existing
<b>Shaft Size</b>	Approximately 1800mm *2000mm
<b>Power Supply</b>	AC - 3 phase, 400/230 V, 50 Hz with neutral and ground wires (for power). AC - 1 phase, 230 V, 50 Hz (lighting). Power consumption <5 KW.
<b>Power supply connection of Elevators to the existing Main Power Supply</b>	Supply and install sub-electric panel for each elevator including the supply of the required quality of cables to connect to the existing Power supply.
<b>Motor</b>	<ul style="list-style-type: none"> <li>• Minimum motor efficiency class: IE2</li> <li>• Motor IP Rating: IP55</li> </ul>
<b>Basic Control drive and Operation Function</b>	<ul style="list-style-type: none"> <li>• Basic Control: Simplex</li> <li>• Control System: Fully computerized - based on low-energy multiprocessor technology</li> <li>• Motor Drive: Closed loop - Variable Voltage Variable Frequency (VVVF) system</li> <li>• Selector: A microprocessor system with full options to arrange the registration of the call respect to the priorities and direction of the car</li> <li>• Fully automatic - Collective/Selective control in up and down direction with automatic floor leveling</li> </ul>
<b>Safety in the Control</b>	<ul style="list-style-type: none"> <li>• Overload function</li> <li>• Fire emergency return control</li> <li>• Re-leveling</li> <li>• Noise and thermal protection</li> <li>• Earth leakage protection</li> <li>• Voltage drop protection</li> <li>• Over speed protection</li> <li>• Phase failure and phase reversal protection</li> </ul>

	<ul style="list-style-type: none"> <li>• Full load bypass</li> <li>• Automatic return to main floor</li> <li>• Independent operation</li> <li>• Anti-stall timer</li> <li>• Door obstacle Detection: Photocell protection barrier</li> <li>• Intercom between car and controller box</li> <li>• Compliance with handicapped options as EN81-70 for Automatic Evacuation: Whenever there is a power failure, the lift will take passengers safely to the next floor and open doors.</li> </ul>
<b>Car Specifications</b>	<ul style="list-style-type: none"> <li>• Special steel structure frame and platform holding the cage through a rubber vibration isolator</li> <li>• Steel sheet Ceiling</li> <li>• Stainless Steel side walls with United Nations Logo.</li> <li>• artificial granite Flooring</li> <li>• Rear side of circular section of Stainless-Steel Handrail</li> <li>• Rear side clear mirror above the handrail</li> <li>• Exhaust fan - Auto exhaust fan shut-off</li> <li>• LED lighting - Auto light shut-off, min 150lux</li> <li>• Stainless steel frame to cover the full width of the wall opening</li> </ul>
<b>Car Operating Panel</b>	<ul style="list-style-type: none"> <li>• One COP of Stainless Steel, stylish, full height.</li> <li>• Electromechanical push buttons at side wall panel. Composed of: <ul style="list-style-type: none"> <li>○ Electromechanical push buttons for landing (floor designations),</li> <li>○ Braille buttons – functionality for universal access (braille, lowered buttons, wheelchair access)</li> <li>○ Alarm Button</li> <li>○ Open door button</li> <li>○ Close door button</li> <li>○ Digital position indicator</li> <li>○ Intercom with two-way call</li> <li>○ Direction arrows</li> <li>○ Instruction plate</li> <li>○ Fan switch</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>○ Full load indication signal</li> <li>○ Overload protection device with audible and visible signal</li> <li>○ Emergency lighting and sounding system enclosed in COP</li> <li>○ Text Signs: Highlighted, increased font size and contrasted colors (+ Braille)</li> <li>○ Signals: audible announcements and visual display to indicate the lift car approaching, the arrival of the lift and floor number, the lift doors opening, the lift doors closing, the floor requested</li> <li>○ Voice recognition controls (added advantage)</li> </ul>
<b>Car Doors</b>	<ul style="list-style-type: none"> <li>• Car door: Fully automatic side 2 panels, heavy duty Telescopic opening 2 panels stainless steel</li> <li>• Include full height photocell with safety edge device</li> </ul>
<b>Landing Doors</b>	<ul style="list-style-type: none"> <li>• stainless steel at all floors</li> <li>• Box frame in Stainless Steel at all floors</li> <li>• Landing operation and indication panels: All floors</li> <li>• Position indicator, direction arrows: Above the doors in all floors</li> <li>• Push buttons: Electromechanical push buttons, Braille lettering</li> <li>• Signals: audible announcements and visual display to indicate the lift car approaching, the arrival of the lift and floor number, the lift doors opening, the lift doors closing</li> <li>• Voice recognition controls (added advantage)</li> </ul>
<b>Safety features:</b>	<ol style="list-style-type: none"> <li>1. Fireman key switch at the Main Floor with complete system</li> <li>2. Safety gear - Progressive type CE certified</li> <li>3. Ascending safety protection according to the international directives</li> <li>4. Limit and final limit switch</li> <li>5. Outside door latch</li> <li>6. Door lock switch</li> <li>7. Semi-Automatic brake release by means of push button outside the shaft to evacuate trapped people</li> <li>8. Emergency evacuation battery charger system to evacuate trapped people in case of Power failure</li> </ol>
<b>Lifespan</b>	<ol style="list-style-type: none"> <li>9. The proposed elevator should carry a useful lifespan of at least 20 years, and confirmation that maintenance parts will be available for the proposed elevator</li> </ol>

	make and models during this period.
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## D. Delivery Requirements

Delivery date and time	Bidder shall deliver & install the elevator within 120 days after Contract signature.
Delivery Terms (INCOTERMS 2020)	DDP
Exact Address(es) of Delivery Location(s)	United Nations House 13 United Nations Road, Maseru, Lesotho
Training on Operations and Maintenance	Training on operations & maintenance should be done within 5 working days of installation. Payments will be released after completion of training and approved by United Nations Representative
Warranty Period	At least 2 years
After-sales service and local service support requirements	Should the equipment fail or break down during the warranty period, the vendor shall repair the equipment at no cost and guarantee the workmanship and parts for a period of 24 months or replace locally Services should be given after the 24 months as per the service agreement (please share a copy of the service & maintenance agreement)
Preferred Mode of Transport	As per bidder's preference (should meet the given delivery time)

## E. Work Progress and Monitoring

1. The contractor's work will be supervised by the representatives of the organization responsible for technical supervision,
2. The final work acceptance will be performed by: UN representatives,
3. The Contractor will keep noise and dust levels to a minimum and make sure that the works does not result in nuisance, interference or danger to other person working in the building
4. At no time shall the Contractor:
  - a. allow any pollutive or toxic substance to be released into the air or storm water systems
  - b. interfere with, or put at risk, the functionality of any system or service



- c. cause a fire or safety hazard
5. The Contractor shall keep accurate daily records of staff attendance, progress on the works, safety inspections and exception reports.

## **F. Duration of the Work**

The contractor must complete the work in the following terms:

no	Description	Number of calendar days to complete construction works
1	Elaboration of the technical design documentation and delivery, installation and commissioning of two passenger elevators and decommissioning and disposal of two old elevators, in the UN House, at 13 United Nations Road, Maseru, Lesotho	180, starting from the date of contract signing

UNDP reserves the right to request additional information from the participants, namely: evidence of the company's technical ability to perform works (availability of appropriate personnel and equipment). Confirmation of availability of different resources to complete the task (personnel, equipment, etc.) is a prerequisite for awarding the contract

## **G. Qualifications of the Successful Contractor**

1. Company with a valid registration and relevant certification for installation of lifts/elevators
2. accredited by the Original Equipment Manufacturer (OEM) to sell, install, commission and maintain the proposed lifts.
3. Minimum annual turnover for any 2 years between 2018 and 2020: R5, 000,000.
4. Minimum 5 years of engagement in similar projects.
5. At least 3 projects of similar nature have been completed for the last 5 years.
6. The Contractor shall have engineering staff with relevant qualification, skills and experience needed for the services required (installations and servicing). Team members are to have a minimum of five (5) years' relevant experience within the elevator mechanical engineering space.

The team leader of the proposed project team is required to have a minimum of five (5) years' experience in elevator installations and project management.

At least one member or the team leader must be registered and in good standing with the following relevant statutory body and provide proof of membership:

- Engineering Council of South Africa (ECSA)
  - Membership of the Elevator Inspectors Association of SA (LIASA) and
  - Certification of elevator inspection authority by SANAS or Department of Labour (DOL)
7. Development of technical documentation shall be done by specialists certified to perform this type of design work and must be confirmed by the copies of the relevant certificates for all proposed specialists. All specialists involved can be either employees of the Contractor or contracted specialists
  8. Licensed to perform activities related to creation of objects of transport infrastructure, namely vertical transport (elevators, escalators, etc.) and for the commissioning of lifting and transport equipment.
  9. Availability of the relevant permit for high-risk work, namely the installation, adjustment, and maintenance of high-risk equipment, namely elevators.
  10. Availability of appropriate equipment and mechanisms.
  11. Availability of qualified technical staff to perform the work
  12. The proposed elevator equipment must have a certificate of conformity according to use in South Africa and meet technical standards.
  13. The Company must have a manufacturer's certification for the right to install the proposed equipment.

## **H. Requirements for the materials used.**

1. The Contractor is obliged to ensure procurement and delivery of all materials and necessary equipment to the construction site. The contractor is obliged to include in the price offer the cost of all necessary materials, equipment and all related costs needed to carry out the respective type of work.
2. The proposed equipment must have a certificate of conformity provided by the Manufacturer and meet the operating technical standards in South Africa.
3. Delivery of the equipment must be accompanied by installation, testing, commissioning, and availability of mandatory warranty service, according to the project documentation. All necessary technical documentation, warranty letters, as well as quality certificates (certificates of conformity, sanitary and epidemiological findings, fire test reports (if

necessary), etc.) for materials/equipment must be provided by the Contractor on the day of delivery. Availability of warranty service in the region. Warranty certificates for automatic and other equipment to be installed on site are mandatory.

4. The use of asbestos and materials containing asbestos is prohibited. All works shall comply with the principles of sustainable development by using designs, methodologies, and technical requirements that make efficient use of resources and energy, protect people and ecological systems, maintain, and improve the quality of life of the community and benefit their needs.

## **I. Price offer and payment schedule.**

1. The contract value shall remain fixed for the duration of the contract.
2. Bidders shall include all costs associated with the execution of works in their price offer (such as supply of all materials, equipment, travel expenses, per diem payments, staff salary, office expenses, etc.).
3. Participants must be guided by the requirement listed above and the technical specifications during preparation of the price proposal.
4. Payments shall be distributed as follows:
  - 90% of the total contract amount shall be paid in stages, based on the actual amount of work completed by the Contractor each month (certificates of works performed must be approved by a UNDP representative and a representative of the organization providing technical supervision of construction, and must be submitted no later than 5 days following the reporting month). The cost of the elevator equipment can be paid after delivery of the complete set to the object with a full set of necessary documentation. The Contractor is fully responsible for the proper and safe storage of the equipment at the site from the time of delivery to the facility until its installation and commissioning.
  - 10% of the total contract amount shall be paid after 12 months warranty period upon issuance of the Certificate of Final Completion. The Contractor may substitute the remaining 10% of the total contract amount with an on-demand bank guarantee in a form, and from a source, acceptable to UNDP. Upon the expiration of the warranty period for the works, upon signing of the Certificate of Final Completion by the representative of the owner, UNDP representative and the Contractor, the bank security will be returned to the Contractor by UNDP.

## **J. Selection Process.**

Bidders' proposal must conform to the format of the submission form as per Annex 2.

Description	Functionality Criteria	Weight
Relevant and similar projects in size, cost, and scope	<p>Provide three (3) contactable references of similar work (NEW LIFTS) and project size that were done in the past three (3) years. Scoring will be based on feedback regarding (but not limited to)</p> <ul style="list-style-type: none"> <li>* Quality of work</li> <li>* Claims consciousness</li> <li>* Overall Management of the site</li> <li>* Overall Management of the project / installation</li> <li>* Meeting time and budget deadlines</li> <li>* Post-handover support</li> <li>* Availability of spare parts</li> </ul>	20
Relevant Organizational Experience	<p>Years of experience in elevator installations (a detailed company profile relevant to the elevator industry must be attached)</p> <p>10 years and plus =15  7-9 years =10  5-6 years =5  &lt;5 years =0</p>	15
Proposed Personnel	<p>Proposed project organogram and management arrangements/ structures should include the expertise of the project team members. Specific focus on the qualification and experience of the following. CV's to be included in your submission.</p> <ul style="list-style-type: none"> <li>• Project Manager in the field of elevator installation</li> <li>• Mechanical and Electrical Engineer</li> <li>• Elevator Site Manager</li> <li>• 3 Qualified lift technicians (minimum of 5 years' experience)</li> </ul>	20
Methodology and Elevator specifications	<p>Includes a complete description of the Elevator installation proposed approach and methodology for the Project. This section should convey the understanding of the Project. It is imperative that the project approach/methodology should be appropriately customized for UN House Lesotho.</p> <p>Please note that generic proposals will not be acceptable.</p>	20

	As part of the proposal the bidders must also provide detail specifications in a form of brochures/catalogues for the proposed elevators	
Project Implementation Plan	Include all Project requirements and the proposed tasks, services, activities, project milestones, timelines (full schedule include dates), project team and state responsibility of each, institutional assistance to complete project etc. necessary to accomplish the scope of the Project. This section of the technical proposal must contain sufficient detail to convey knowledge of the subject matter and skills necessary to successfully complete the Project, and to do so in a time and resource efficient manner.	10
Comprehensive Maintenance Plan	Complete details specific to the project = 5 Generic = 0	5
Risk Assessment Plan	Complete details specific to the project = 5 Generic = 0	5
Health and Safety Plan	Complete details specific to the project = 5 Generic = 0	5
Total		100

**This TOR is approved by:**

Signature:

Name and Designation:

Date of Signing:

*Pheea Mafethe*  
Pheea Mafethe Operations Analyst  
21-Sep-2021