

## **Annex B: Terms of Reference**

**For**

### **Development and conduction of a capacity building program for Engineers working in the maintenance and Equipment Departments in the Ministry of Health - Gaza**

<b>Title</b>	Development and conduction of a capacity building program for Engineers working in the maintenance and Equipment Departments in the Ministry of Health - Gaza
<b>Purpose</b>	Equip Biomedical Engineers working in the MOH in Equipment Department in Gaza with: <ul style="list-style-type: none"><li>- Most updated knowledge and skills in relation to certified international standards health facilities.</li><li>- Improves the management of medical devices to ensure regulatory compliance, reduce costs and improve healthcare standards.</li><li>- Identify all therapeutic devices and the ability to discover faults in them.<ul style="list-style-type: none"><li>- Gain knowledge of medical device examination procedures.</li></ul></li><li>- Gain the ability and experience to evaluate the effectiveness of a maintenance and fault program</li><li>- Managing preventive maintenance systems and planning spare parts.</li></ul>
<b>Location</b>	<ul style="list-style-type: none"><li>- Outside the Country – training and site visits</li></ul>
<b>Duration of the assignment</b>	2 packages of 5 days trainings for each package (within 8 weeks period)
<b>Start Date</b>	1 November 2023

#### **1. Background**

In the Gaza Strip, maternal and child health care is an integral component of the health services. The four major healthcare providers are the Ministry of Health (MoH), United Nations Relief and Work Agency (UNRWA), Non-Governmental Organizations (NGOs), and private for-profit institutions. The MoH is responsible for a significant portion of primary, secondary, and some tertiary health care (managing over 50% of medical facilities in the Gaza Strip).

As a part of its commitment, to ensure the provision of evidence-based, sustainable, and informed programming, UNICEF, in collaboration with partners, is supporting MoH to strengthen the health system, improve the Maternal, Neonatal and Young Children Health (MNCH) services, increase access to quality gender-sensitive and responsive MNCH health care services for the most vulnerable women and children, and build the capacity of MOH staff to deliver quality services. In line with that, UNICEF jointly with WHO & UNFPA and with the funding by the Agence Francaise de Development (AFD) designed and implementing the project “Strengthening Maternal, Neonatal and Young Children Health (MNCH) in Gaza” with a main objective to improve access to quality and sustainable sexual and reproductive health, child

health, nutrition, and early childhood development services in Gaza. The project aims to achieve its desired objective through implementing series of interventions, out of which is the capacity building of the staff working in the health sector through trainings, mentoring and supervision to equip them with the required knowledge and skills required for the provision of quality services. Also, department of Alternative Energy, Electrical Networks and Generators is one of the influential sections in the equipment department, Part of its tasks design and supervision of hybrid and grid-connected solar energy systems for Ministry of Health facilities such as hospitals and clinics, in addition to designing and developing synchronization systems between different energy sources, and developing subscription panels on the low and medium voltage side in the various facilities of the Ministry .

There is increasing acceptance that proper management of medical technologies is essential for the attainment of affordable and sustainable quality healthcare delivery. Healthcare Technology Management (HTM) aims for optimal acquisition and utilization for healthcare technologies as part of efficient and cost-effective healthcare services, in addition to international standards for equipment's different levels of ICU, NICU, Operating Rooms, Radiology and endoscopic departments.

Accordingly, and as part of the required capacity building of MOH staff, UNICEF is developing a capacity building program targeting Biomedical in maintenance and equipment Engineering Departments, which is integrated unit specialized in equipment's supplies in all Ministry of Health centers. The maintenance and Equipment Departments of MoH are responsible for the following:

- Participate in decision-making in developing policies and plans related to medical equipment Prepare the technical specifications of medical equipment's.
- Participating in determining the need assessments of medical equipment's with health provider in MOH sectors.
- Preparing technical specifications for medical devices and medical furniture.
- Participating technical committees for technical analysis, award and receiving committees.
- Participate in engineering inspection committees for private health facilities in order to grant these centers a license to practice and provide health services.
- Managing of urgent and preventive maintenance and planning spare parts.

Considering the importance of the role that the MOH Maintenance and medical Equipment Departments play as the main responsible of engineering works for all MOH health facilities, it is crucial to build the capacities of the Department staff to equip them with most updated knowledge and skills in relation to certified international standards of Equip health facilities which will directly contribute to strengthening the health system capacity to provide quality MNCH services.

### **Purpose of the assignment**

Equip 14 Biomedical Engineers working in the MOH in Equipment Department in the Gaza strip with updated knowledge and skills in relation to certified international standards health facilities. And gain the trainees the principle of the periodic, regular, protective maintenance for the medical equipment in addition to understand the importance of the spare parts management and planning.

### **Major tasks to be accomplished**

- Deliver training to key Biomedical engineers working in Maintenance and medical Equipment Departments in MOH Gaza.

- Increase the knowledge and skills of the engineering staff to be able to understand the needs and challenges of the rapidly changing requirements and standards of health facilities. In addition to managing of urgent and preventive maintenance and planning spare parts.
- Increase readiness of the trainees to apply the standards in their work including application of innovative implementation methods and gain knowledge of medical device examination procedures.

### **Deliverables**

The Training Service Provider shall achieve the following deliverables as well as any other activity deemed necessary for the completeness and achievement of the stated objectives.

- 1- Develop two training packages for MOH biomedical engineers, that includes all required training tools and materials including manuals, presentations, guidance for trainers on use of interactive methods and training aids such as good practices, case studies, videos, group or individual exercises, assignments, appropriate training evaluation techniques including pre and post assessment. The developed package should be completed in consultation and agreement with UNICEF and MOH.
- 2- Develop a training plan with timelines, the plan should include suggested country & locations, detailed description/timeline of the Face-to-Face training sessions and site visits to exemplary health facilities (5 days) for each one of the two groups where the first group of the engineers need to cover Topics No.1 and No.2 while the second group of the engineers need to cover the Topics No.1 and No.3.
- 3- The two training packages in sequence (5 days for each Group of the engineers) with the objective to strengthen the MoH Engineers understanding will cover the following concepts:

Topic No.	Main Topics	Training Topics	Targeted Group	Proposed No. of trainees
1	Health Technology Management (HTM).	<ul style="list-style-type: none"> <li>- International standards for determining the needs of medical equipment within health facilities departments in hospitals and health centers</li> <li>- International standards and foundations followed in the preparation of technical specifications for medical devices and medical furniture</li> <li>- Providing sufficient training related to technical studies that help in the process of correct technical analysis and providing correct specifications and comparisons between internationally approved medical devices, an example of which is the ECRI Institute.</li> <li>- Quality management related to medical equipment facilities.</li> <li>- International Standards for Equip Different levels of ICUs, NICUs, Operating Rooms and Radiology departments.</li> <li>- Medical Test Equipment according to standards.</li> <li>- Use the Artificial intelligence programs and various applications to obtain Information, data, reports,</li> </ul>	Biomedical engineers	Group #1 (7 Engineers) & Group #2 (7 Engineers)

		<p>pictures, or videos related to the medical device field, this can improve our performance.</p> <ul style="list-style-type: none"> <li>- Standards consideration through Equip Endoscopic Department.</li> </ul>		
2	<b>Theoretical and Practical training for medical devices</b> (Maintenance and Spare Parts Planning) for <b>mechanical ventilators, anesthesia unit, patient monitors, infant incubators, and resuscitation units.</b>	<ul style="list-style-type: none"> <li>- Risk-based biomedical equipment management program.</li> <li>- Operational management (developing or changing inspection and preventive maintenance procedures).</li> <li>- Maintenance program planning (inventory and resources).</li> <li>- Regulatory requirements and standards for medical device maintenance.</li> <li>- Preventive maintenance strategies and schedules.</li> <li>- Corrective maintenance procedures and troubleshooting techniques.</li> <li>- Calibration and performance verification of medical devices.</li> <li>- Common types of faults and failures in medical devices.</li> <li>- Diagnostic methods and tools for identifying faults.</li> <li>- Interpretation of error codes and troubleshooting guidelines.</li> <li>- Documentation requirements for medical device maintenance activities.</li> <li>- Maintenance logs, work orders, and service reports.</li> <li>- Importance of accurate record-keeping and compliance with regulations.</li> </ul>	Biomedical engineers	Group #1 (7 Engineers)
3	<b>Theoretical and Practical training for medical devices</b> (Maintenance and Spare Parts Planning) for <b>analog and Digital X-ray, CT scan, MRI, and Ultrasound.</b>	<ul style="list-style-type: none"> <li>- Handling of hazardous materials and disposal of waste.</li> <li>- Infection control measures during maintenance activities.</li> <li>- Retirement and replacement strategies for medical devices.</li> <li>- Integration of maintenance activities with equipment procurement and planning. Welding methods for electronic components. Use a risk-based assessment to establish a medical equipment maintenance program.</li> <li>- Evaluate the effectiveness of the maintenance program.</li> <li>- Electrical safety tests and measures.</li> <li>- Implementing an effective spare parts inventory management system.</li> <li>-</li> <li>-</li> </ul>	Biomedical engineers	Group #2 (7 Engineers)

4- Arrange/facilitate all the logistical, travel, and administrative arrangement required for (14 trainees and 2 administrators) including:

- ✓ Prepare and provide all travel requirements including transportation, visa fees, and all forms of land or air transport, if necessary. In addition to the provision of all the required arrangements/facilitation for the travel outside the country, including the required coordination for travel at the crossing's borders, payment of crossing fees, and any other related arrangements.
- ✓ Providing accommodation in a hotel (preferably 5 stars) for trainees and administrators (double rooms, including breakfast and dinner).
- ✓ Provision of transportation for the trainees during the training period. Vehicles should be comfortable with high safety standards.
- ✓ Providing a mobile SIM card for all trainees and administrators with suitable credit that covers the training period.
- ✓ Provision of reasonable individual Daily Subsistence Allowances (DSA) for the trainees and administrator during the period of stay outside the country, including the days of departure and return. "DSA is an allowance which is intended to account for lodging, meals, gratuities and other expenses of United Nations travelers" The International Civil Service Commission (ICSC) issues a monthly list of rates for different locations around the world. The UN and its related organizations use this schedule of rates to calculate reimbursement for travel expenses on official travel and relocation to a duty station. Organizations may have different policies on how the allowance is determined. The interactive map on the ICSC homepage can be used to quickly look up DSA rates for a country without login. You can use the website: <https://icsc.un.org/Home/DailySubsistence>. As the service provider will provide dinner meal during the training, it is required to **pay 20% of the DSA** according to the training area"
- ✓ Provide all the necessary logistics for the training such lecture halls, ICT, hospitality including dinner, stationary, etc.

### Qualification and Experience

- Demonstrated experience in developing and conducting training packages for Engineers with health sector.
- Experience in conducting external training (outside Palestine) and in facilitation of required travel/logistical arrangement
- Well versed in participant-centered, experiential facilitation methodologies □ Experience in health sector management and programming is a desired asset. □ Languages: English and Arabic (fluent skills)

**The duration of the contract is 8 weeks with expected start date on 1 November 2023** including mobilization and training implementation:

### Proposal Submission:

Interested agencies who meet the criteria mentioned above are requested to submit their CVs, a technical proposal comprising of broad work plan and financial proposal quoting number of days required for completing the assignment.

### Bids for consideration

UNICEF invites The Training Service Providers for consideration against this ToR from qualified parties. Bids should address all major aspects of the ToR and comprise of both a technical and a financial proposal. UNICEF will consider each element of the bid separately, awarding a 70% weighting and 30% weighting to the technical and financial proposal components, respectively.

Technical bids should cover the following elements: understanding of the scope of work/background, short workplan proposed, team (including roles and responsibilities of team members, time allocation, qualification based on previous experience and CVs), and quality assurance to take.

### Schedule of payments

Payments shall be made as follows.

No.	Scope of deliverable	Percentage of total contract value
1	Develop a training package that includes all required training tools and materials	20%
2	Completion of the training sessions and sites visits for the first group	40%
3	Completion of the training sessions and sites visits for the Second group	40%

### Evaluation Criteria and distribution of points

Category	Max Points
<b>1. Pass and Fail (mandatory criteria to proceed with the assessment)</b> a) Valid certificate of Incorporation/ Business Registration for the required services. b) The entity shall have a legal address and should be operating in the field for a minimum of three (3) fiscal years. c) Tax Registration/Payment Certificate issue.	Pass/Fail
<b>2. Overall Response.</b> • Understanding of, and responsiveness to the requirements (6) • Understanding of scope, objectives, and completeness of response (6)	12
<b>3. Methodology</b> • Quality of the proposed approach and methodology (8) • Quality of proposed implementation plan, i.e., how the bidder will undertake each task, and time-schedules (8)	22

<ul style="list-style-type: none"> <li>Quality assurance mechanism and risk mitigation measures put in place- recognition of the peripheral problems and methods to prevent and manage peripheral problems / quality controls (6)</li> </ul>	
<b>4. Proposed Team and Organizational Capacity</b> <input type="checkbox"/> Team members - relevant experience, skills & competencies (10)  Details of the Proposed Team for the assignment including the following information: <ul style="list-style-type: none"> <li>Title/Designation of each team member on the project.</li> <li>Experience in working on similar project and assignment – List all similar projects they worked on and their roles on the project</li> <li>Availability of personnel in the &lt;&gt; time zone</li> </ul>	10
<b>5. Professional expertise, knowledge and experience with similar projects, contracts, clients, and consulting assignments (10)</b> Bidders are requested to back up their submissions by providing at least three case studies containing the following: <ul style="list-style-type: none"> <li>Name of Client</li> <li>Title of the Project</li> <li>Year and duration of the Project</li> <li>Scope of the Projects/Requirements</li> <li>Implemented Solutions and Outcome (include URLs, PDFs of final deliverables)</li> <li>Team members on each of the project and their specific roles</li> <li>Reference /Contact person details</li> </ul>	10
<b>6. Logistics arrangements</b> <ul style="list-style-type: none"> <li>Accommodation, transportation, ...</li> </ul>	16
<b>Total Points for Technical Proposal (min passing scores = 50 Points)</b>	70
<b>7. Financial Proposal</b>  Full marks are allocated to the lowest priced proposal. The financial scores of the other proposals will be in inverse proportion to the lowest price. (30)	30
<b>Total Points</b>	100