**TERMS OF REFERENCE (TOR)**
**Mechanical, Electrical and Plumbing (MEP) Consultancy Services**
**Thilafushi Port Development Project**
**Maldives Ports Limited**
**Announcement No: (IUL)113-PD/1/2026/97**

## 1. INTRODUCTION

Maldives Ports Limited (MPL) intends to undertake the Thilafushi Port Development Project to develop modern port infrastructure at Thilafushi, Maldives.

The development will comprise port operational areas, buildings, utility infrastructure, cargo handling and container yard areas, container freight station (CFS), workshops and maintenance facilities, security infrastructure, roads and external areas, and other associated facilities required for efficient port operations.

MPL intends to appoint a qualified multidisciplinary Mechanical, Electrical and Plumbing (MEP) Consultant to undertake the complete planning, investigation, design, coordination, tender documentation, construction supervision, testing, commissioning and handover support for all MEP systems associated with the Project.

The Consultant shall develop safe, reliable, energy-efficient, maintainable and climate-resilient MEP infrastructure suitable for continuous operation within a marine and industrial port environment.

## 2. OBJECTIVES OF THE CONSULTANCY

The principal objective is to provide complete professional MEP engineering services from initial assessment through design, procurement, construction, commissioning and final handover.

The Consultant shall:

1. Establish the Project's utility and MEP requirements.
2. Develop the MEP design criteria and design basis.
3. Determine future electrical, mechanical, water and utility demands.
4. Prepare concept, preliminary and detailed designs.
5. Prepare technical specifications, drawings, schedules, Bills of Quantities and tender documentation.
6. Coordinate MEP systems with architectural, structural, civil, marine, ICT, security and port operational systems.
7. Assist MPL during procurement and contractor selection.
8. Provide construction supervision and contract administration support.

9. Review contractors' designs, shop drawings, calculations, material submissions and method statements.
10. Witness testing and commissioning.
11. Verify system performance and statutory compliance.
12. Review as-built documentation and operation and maintenance manuals.
13. Support training, handover and the Defects Liability Period

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## 3. SCOPE OF SERVICES

The Consultant's services shall include, but shall not necessarily be limited to, the following.

### 3.1 Site Investigation and Infrastructure Assessment

The Consultant shall:

- Review available master plans, surveys, architectural drawings, civil and marine designs and utility information.
- Conduct detailed site inspections.
- Identify electricity, water, sewerage, drainage, fuel, firefighting, telecommunications and other utilities.
- Verify infrastructure capacities and connection points.
- Coordinate with relevant utility providers and regulatory authorities.
- Identify utility relocation, diversion, protection and upgrading requirements.
- Identify interfaces between infrastructure and the proposed development.
- Identify environmental and marine conditions affecting MEP equipment selection.
- Prepare an MEP infrastructure and utility assessment report.

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## 4. ELECTRICAL SYSTEMS

The Consultant shall undertake complete electrical engineering design and supervision.

### 4.1 Electrical Load Assessment

The Consultant shall prepare comprehensive electrical load calculations covering, as applicable:

- Container yards;
- Quay and apron areas;
- Administration buildings;
- Gate complexes;
- Workshops;
- Warehouses;
- Maintenance facilities;
- Reefer container systems;

- Cargo handling facilities;
- Water and wastewater systems;
- Firefighting systems;
- Fuel systems;
- Security systems;
- ICT/data centres and communication systems;
- Navigation and marine-related equipment;
- External lighting;
- Mechanical equipment;
- EV charging;
- Shore power where applicable;
- Future port

development. Load assessments shall include:

- Connected load;
- Maximum demand;
- Diversity;
- Load profiles;
- Starting currents;
- Power factor;
- Harmonic loads;
- Critical and essential loads;
- Future expansion allowances

The Consultant shall develop appropriate electrical demand forecasts and recommend the ultimate electrical infrastructure capacity.

### 4.2 Power Generation System

The Consultant shall design a complete diesel-engine power generation facility. The Consultant shall determine, but not limited to:

- Number of generating sets;
- Individual generator capacities;
- Firm generation capacity;
- N+1 redundancy requirements;
- Generator voltage;
- Synchronisation philosophy;
- Load-sharing arrangements;
- Black-start requirements;
- Automatic start/stop sequence;
- Generator control systems;
- Fuel consumption;
- Fuel storage capacity;
- Day tanks;

- Fuel transfer systems;
- Lubrication systems;
- Cooling arrangements;
- Starting systems;
- Exhaust systems;
- Ventilation requirements;
- Acoustic requirements;
- Fire protection;
- Generator protection;
- Auxiliary systems.

The Consultant shall determine the required powerhouse size and layout based on equipment dimensions, maintenance clearances, ventilation, acoustic performance, equipment replacement routes, fire separation and future expansion.

**Acoustic Design**

The Consultant shall undertake noise calculations and determine:

- Intake attenuator dimensions;
- Discharge attenuator dimensions;
- Exhaust silencers;
- Acoustic doors;
- Acoustic wall/roof treatment;
- Required sound attenuation performance.
- Noise levels shall comply with applicable environmental and occupational requirements.

### 4.3 MV/LV Distribution System

The Consultant shall design the complete electrical distribution system including:

- MV switchgear;
- Ring Main Units;
- Transformers;
- LV switchboards;
- Main distribution boards;
- Sub-main distribution boards;
- Motor control centres;
- Distribution boards;
- Busbar systems;
- Automatic Transfer Switches;
- Synchronisation panels;
- Power factor correction equipment;
- Harmonic mitigation equipment;
- Metering;

- Protection relays;
- SCADA/power monitoring

interfaces. The Consultant shall determine:

- System voltage;
- Transformer ratings;
- Transformer numbers and locations;
- Substation capacities;
- Switchgear ratings;
- Busbar ratings;
- Fault levels;
- Protection requirements;
- Cable capacities.

### 4.4 Substations

The Consultant shall identify the optimum number, location and capacity of substations. Each substation design shall consider:

- Transformer location;
- MV switchgear rooms;
- LV switchgear rooms;
- Control rooms;
- Battery/UPS rooms where required;
- Ventilation and cooling;
- Fire detection and protection;
- Cable trenches;
- Equipment access;
- Maintenance clearance;
- Flood protection;
- Corrosion protection;
- Future expansion.

### 4.5 Underground Cable Distribution

Electrical distribution within the port shall generally utilize underground cable networks where appropriate.

The Consultant shall design:

- MV cables;
- LV cables;
- Control cables;
- Cable ducts;
- Cable trenches;
- Cable chambers;

- Manholes;
- Draw pits;
- Road crossings;
- Cable markers;
- Cable protection systems.

The Consultant shall calculate and specify cable sizes based on:

- Current-carrying capacity;
- Voltage drop;
- Short-circuit withstand;
- Installation method;
- Ground temperature;
- Soil thermal resistivity;
- Grouping;
- Harmonics;
- Future capacity.

Appropriate spare ducts shall be provided for future expansion.

### 4.6 Electrical System Studies

The Consultant shall undertake, where applicable:

- Load flow studies;
- Short-circuit studies;
- Protection coordination;
- Discrimination studies;
- Arc-flash studies;
- Motor starting studies;
- Voltage-drop calculations;
- Power-factor studies;
- Harmonic studies;
- Earthing studies;
- Lightning-risk assessment.

Power-quality requirements, including total harmonic distortion (THD), shall be established for sensitive equipment and the overall distribution network.

### 4.7 Solar PV and Renewable Energy Integration

The Consultant shall assess and design Solar PV integration suitable for the development. Potential locations shall include, but not limited to:

- Building roofs;
- Warehouse roofs;
- Workshop roofs;
- Vehicle parks;

- Covered walkways;
- Other suitable

structures. The Consultant shall determine:

- Available installation area;
- Installed PV capacity;
- Expected annual energy generation;
- Inverter configuration;
- Electrical connection arrangement;
- Protection;
- Metering;
- Monitoring;
- Grid/generator interaction;
- Structural interfaces;
- Maintenance requirements.

The Consultant shall evaluate battery energy storage systems where technically and economically appropriate.

A renewable-energy and energy-efficiency assessment shall be prepared.

### 4.8 Lighting Systems

The Consultant shall design lighting for:

- Container yards;
- Quays;
- Aprons;
- Roads;
- Intersections;
- Gate areas;
- Pedestrian areas;
- Workshops;
- Warehouses;
- Administration facilities;
- Security areas;
- Perimeter areas;
- Emergency routes.

Lighting calculations shall address:

- Maintained illuminance;
- Uniformity;
- Glare;
- Colour rendering;
- Energy efficiency;

- CCTV requirements;
- Operational safety.

High-mast lighting shall be considered for large operational areas.
Marine-grade, corrosion-resistant LED luminaires shall generally be specified.

### 4.9 Earthing and Lightning Protection

The Consultant shall design:

- Main earthing network;
- Substation earthing;
- Generator earthing;
- Equipment bonding;
- Structural bonding;
- Lightning protection;
- Surge protection;
- Clean earth systems where required.

The design shall consider the highly corrosive marine environment and local soil conditions.

### 4.10 Emergency and Uninterruptible Power

The Consultant shall identify critical systems requiring emergency or uninterrupted power, including:

- Fire alarm;
- ICT;
- Security;
- CCTV;
- Access control;
- Emergency lighting;
- Communication;
- Control systems;
- Critical port operational systems.

UPS and emergency supply capacities and autonomy shall be established accordingly.

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## 5. MECHANICAL SYSTEMS

The Consultant shall design all mechanical systems required for the development.

### 5.1 HVAC

The Consultant shall design appropriate:

- Air-conditioning;
- Mechanical ventilation;
- Fresh-air systems;

- Exhaust ventilation;
- Smoke-control systems where applicable;
- Equipment-room ventilation.

Heat-load calculations shall consider Maldives climatic conditions, solar gain, occupancy, equipment loads and building use.
Energy-efficient equipment shall be prioritized.

### 5.2 Building Management System

Where justified, a Building Management System (BMS) shall be provided for monitoring and controlling major MEP systems.
The system may include:

- HVAC;
- Energy metering;
- Water systems;
- Pumps;
- Generator auxiliaries;
- Environmental monitoring;
- Alarms.

Integration requirements with SCADA and other monitoring platforms shall be established.

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## 6. WATER SUPPLY SYSTEM

The Consultant shall assess and design an appropriate Reverse Osmosis water production system including raw-water intake, pretreatment, RO equipment, post-treatment and storage. The design shall include:

- Water demand calculations;
- Storage tanks;
- Pumping systems;
- Distribution networks;
- Pressure zones;
- Water meters;
- Isolation valves;
- Building connections;
- Port operational water requirements.

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## 7. SEWERAGE AND WASTEWATER SYSTEM

The Consultant shall design:

- Sanitary drainage;
- Sewer collection networks;

- Pumping stations;
- Sewage treatment facilities where required;
- Treated-effluent systems;
- Disposal/reuse systems;
- Oil and grease separation systems where applicable.

Wastewater treatment and disposal shall comply with applicable Maldivian environmental requirements.

## 8. STORMWATER AND MEP INTERFACE

The Consultant shall assess and design an appropriate stormwater storage system. The Consultant shall coordinate with the civil drainage designer regarding:

- Pumping stations;
- Drainage pumps;
- Sump pumps;
- Oil-water separators;
- Electrical supplies;
- Controls;
- Monitoring;
- Emergency pumping arrangements.

Special attention shall be given to flood levels, extreme rainfall, seawater intrusion and climate resilience.

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## 9. FIRE PROTECTION SYSTEMS

The Consultant shall undertake a comprehensive fire-risk assessment and design appropriate fire protection systems.

Systems may include:

- Fire-water storage;
- Fire pumps;
- Hydrant networks;
- Hose reels;
- Sprinklers;
- Deluge systems;
- Foam systems;
- Portable extinguishers;
- Fire detection;
- Fire alarm;
- Gas suppression;
- Emergency shutdown;

- Fireman's communication systems.

Special fire risks associated with generators, transformers, fuel storage, workshops, warehouses and port cargo operations shall be addressed.

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## 10. FUEL STORAGE AND DISTRIBUTION

Where fuel infrastructure forms part of the Project, the Consultant shall design:

- Bulk storage tanks;
- Generator fuel systems;
- Day tanks;
- Transfer pumps;
- Fuel piping;
- Filling points;
- Vent systems;
- Leak detection;
- Bunds;
- Emergency shutdown;
- Fire protection;
- Fuel monitoring.

Environmental protection measures shall be incorporated to minimize spill and contamination risks.

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## 11. PORT-SPECIFIC SYSTEMS

The Consultant shall identify and coordinate electrical and utility requirements for port operational systems including, where applicable:

- Ship-to-shore cranes;
- Mobile harbour cranes;
- RTGs;
- Reefer container areas;
- Weighbridges;
- Gate equipment;
- Workshop equipment;
- Cargo handling equipment;
- Marine navigation aids;
- Quay equipment;
- Vessel water supply;
- Shore power;
- Electric cargo-handling equipment;
- EV charging infrastructure.

Particular attention shall be given to high starting currents, harmonics, regenerative

loads and power-quality impacts from cargo-handling equipment.

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## 12. DESIGN FOR MARINE ENVIRONMENT

All MEP equipment shall be designed for the aggressive marine environment at Thilafushi. The Consultant shall establish requirements for:

- Corrosion resistance;
- Salt-laden atmosphere;
- High humidity;
- High ambient temperature;
- UV exposure;
- Wind loading;
- Flooding;
- Seawater exposure;
- Equipment ingress protection.

Outdoor equipment shall generally be specified with suitable marine-grade coatings, stainless-steel components where appropriate and appropriate IP ratings.

Equipment location and design levels shall consider storm surge, sea-level rise and climate-change resilience.

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## 13. ENERGY EFFICIENCY AND SUSTAINABILITY

The Consultant shall incorporate energy-efficiency and sustainable-design principles. These shall include consideration of:

- High-efficiency motors;
- Variable Frequency Drives;
- LED lighting;
- Smart lighting controls;
- Efficient HVAC;
- High-efficiency transformers;
- Power-factor correction;
- Energy metering;
- Solar PV;
- Battery storage;
- Electric vehicles;
- Electric cargo-handling equipment;
- Shore power;
- Water conservation;
- Wastewater reuse;
- Renewable-energy readiness.

Whole-life cost rather than initial capital cost alone shall be considered when selecting major equipment.

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## 14. CODES, STANDARDS AND REGULATORY REQUIREMENTS

The Consultant shall ensure that all designs, equipment, construction, installation, testing and commissioning comply with applicable Maldives legislation, regulatory requirements and internationally recognized standards.
The hierarchy shall generally be:

1. Applicable laws and regulations of the Republic of Maldives;
2. Utility Regulatory Authority (URA) requirements and guidelines;
3. Requirements of relevant Maldivian utility providers and authorities;
4. British Standards and BS EN standards;
5. IEC standards;
6. Other internationally recognized standards where a relevant British/European standard is unavailable.

**Applicable standards shall include the latest editions of relevant:**

- BS 7671 – Requirements for Electrical Installations;
- BS EN/IEC 61936 – Power installations exceeding 1 kV AC;
- BS EN/IEC 62271 – High-voltage switchgear and controlgear;
- BS EN/IEC 60076 – Power transformers;
- BS EN/IEC 60947 – Low-voltage switchgear and controlgear;
- BS EN/IEC 61439 – Low-voltage switchgear assemblies;
- BS EN/IEC 60529 – Degrees of protection (IP Code);
- BS EN 62305 – Lightning protection;
- BS EN 12464 – Lighting of workplaces;
- BS 5266 – Emergency lighting;
- BS 5839 – Fire detection and alarm systems;
- BS 9999 – Fire safety in the design, management and use of buildings;
- BS EN 12845 – Automatic sprinkler systems;
- BS EN 806 – Potable water installations;
- BS EN 12056 – Gravity drainage systems inside buildings;
- CIBSE Guides and Technical Memoranda;
- IET guidance;
- IEC standards for photovoltaic and power systems;
- relevant NFPA standards where appropriate for specialized fire hazards.

The Consultant shall prepare a Codes and Standards Register during the design stage identifying the standards applicable to each MEP system.
Where requirements conflict, the more stringent requirement shall generally apply

subject to approval by MPL and the relevant authority.

## 15. DESIGN STAGES

### 15.1 Inception Stage

The Consultant shall prepare an Inception Report covering:

- Understanding of the Project;
- Review of available information;
- Site conditions;
- Design methodology;
- Data gaps;
- Required investigations;
- Authority interfaces;
- Design programme;
- Key risks.

### 15.2 Concept Design

Concept design shall establish:

- Utility strategy;
- Electrical generation strategy;
- Load estimates;
- Substation locations;
- Main distribution routes;
- Water strategy;
- Wastewater strategy;
- Fire strategy;
- HVAC philosophy;
- Renewable-energy strategy;
- Major plant locations.

Alternative solutions shall be evaluated using technical, operational and whole-life-cost considerations.

### 15.3 Preliminary Design

The Consultant shall develop:

- Design calculations;
- Equipment capacities;
- Single-line diagrams;
- Plant layouts;
- Utility layouts;
- Distribution routes;
- Equipment schedules;
- Preliminary specifications;
- Updated cost estimates.

### 15.4 Detailed Design

Detailed design shall contain sufficient information for construction and tendering. The Consultant shall prepare:

- Detailed calculations;
- Technical specifications;
- Drawings;
- Schematics;
- Single-line diagrams;
- Equipment schedules;
- Control philosophies;
- Cable schedules;
- Panel schedules;
- Equipment datasheets;
- Bills of Quantities;
- Testing requirements;
- Commissioning requirements.

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## 16. BIM AND DESIGN COORDINATION

Where BIM is adopted for the Project, the Consultant shall develop coordinated MEP models to the required project Level of Information Need.

The Consultant shall:

- Coordinate MEP systems with architecture, structure, civil and marine works;
- Undertake clash detection;
- Coordinate plant rooms and service corridors;
- Establish maintenance access;
- Coordinate underground utilities;
- Produce coordinated drawings from approved

models. Consultant shall prepare cost estimates at each design stage.

The final design shall include a detailed Bill of Quantities covering all MEP works. The Consultant shall identify:

- Capital cost;
- Major equipment costs;
- Installation costs;
- Testing and commissioning;
- Recommended spares;
- Maintenance requirements.

For major systems, life-cycle cost assessments shall be undertaken where appropriate.

## 17. TENDER DOCUMENTATION AND PROCUREMENT SUPPORT

The Consultant shall prepare complete MEP tender documentation comprising:

- Employer's Requirements/technical specifications;
- Drawings;
- Bills of Quantities;
- Equipment schedules;
- Performance requirements;
- Testing requirements;
- Commissioning requirements;
- Warranty requirements;
- Spare-parts requirements;
- Training requirements;
- O&M documentation

requirements. During tendering, the Consultant shall:

- Respond to technical queries;
- Prepare tender clarifications/addenda;
- Attend pre-bid meetings;
- Review technical proposals;
- Evaluate compliance;
- Review proposed equipment;
- Assist MPL with technical tender evaluation;
- Prepare technical evaluation reports and recommendations.

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## 18. CONSTRUCTION SUPERVISION

The Consultant shall provide competent MEP personnel throughout the construction period. Responsibilities shall include:

- Reviewing contractor submissions;
- Reviewing shop drawings;
- Reviewing material and equipment submissions;
- Reviewing method statements;
- Reviewing calculations;
- Reviewing coordination drawings;
- Monitoring installation quality;
- Monitoring programme and progress;
- Conducting inspections
- Issuing observations and non-conformance reports;
- Reviewing corrective actions;
- Attending progress and coordination meetings;
- Resolving technical queries;
- Reviewing proposed variations;

- Verifying quantities where required;
- Maintaining inspection records;
- Monitoring compliance with approved design and specifications.
- Obtain approval from the Utility Authority of Maldives (URA).

No material substitution or design deviation shall be accepted without appropriate technical review and approval.

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## 19. FACTORY ACCEPTANCE TESTING

The Consultant shall identify major equipment requiring Factory Acceptance Tests (FAT). This may include:

- Generators;
- Transformers;
- MV switchgear;
- LV switchboards;
- Motor control centres;
- UPS systems;
- Fire pumps;
- Major pumps;
- RO systems;
- Control systems.

The Consultant shall review FAT procedures and witness tests where required.

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## 20. TESTING AND COMMISSIONING

The Consultant shall develop and review comprehensive testing and commissioning requirements.

Testing shall include, as applicable:

- Cable testing;
- Insulation resistance;
- Earthing;
- Transformer tests;
- Switchgear tests;
- Protection relay tests;
- Generator load tests;
- Synchronisation tests;
- Black-start tests;
- UPS tests;
- Lighting tests;
- HVAC balancing;

- Water-pressure tests;
- Pump tests;
- Fire-system tests;
- Fire-alarm cause-and-effect tests;
- Integrated system testing;
- Solar PV testing;
- SCADA/BMS testing.

The Consultant shall witness testing and certify that systems satisfy the design intent and contractual requirements.

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## 21. HANDOVER AND CLOSEOUT

Before handover, the Consultant shall review and approve:

- As-built drawings;
- Final calculations;
- Equipment schedules;
- Test certificates;
- Commissioning reports;
- Authority approvals;
- Operation and Maintenance Manuals;
- Manufacturer documentation;
- Warranty certificates;
- Spare-parts inventories;
- Asset registers;
- Training records.

The Consultant shall verify that training is provided to MPL's operational and maintenance personnel.

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## 22. DEFECTS LIABILITY PERIOD

During the Defects Liability Period, the Consultant shall:

- Participate in defect inspections;
- Review reported MEP defects;
- Recommend corrective measures;
- Inspect rectification works;
- Review outstanding testing;
- Conduct final inspections;
- Assist MPL in issuing final completion recommendations.

## 23. KEY DELIVERABLES

The minimum deliverables shall include:

1. Inception Report;
2. MEP Design Basis Report;
3. Codes and Standards Register;
4. Electrical Load and Demand Assessment;
5. Concept MEP Design;
6. Preliminary Design Package;
7. Detailed Design Package;
8. Electrical System Study Reports;
9. Fire Strategy and Calculations;
10. Water and Wastewater Design Reports;
11. HVAC Design and Calculations;
12. Renewable Energy/Solar PV Assessment;
13. Energy-Efficiency Assessment;
14. Technical Specifications;
15. Bills of Quantities;
16. Engineer's Cost Estimate;
17. Tender Drawings;
18. Tender Evaluation Support and Reports;
19. Approved-for-Construction design documentation as applicable;
20. Monthly Construction Supervision Reports;
21. Inspection and Quality Reports;
22. Testing and Commissioning Reports;
23. As-built Drawing Review;
24. O&M Manual Review;
25. Final Completion Report.

All calculations shall be submitted in editable electronic format in addition to PDF. Drawings shall be provided in editable CAD/BIM format and PDF.

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## 24. CONSULTANT'S KEY PERSONNEL

The Consultant shall provide, as a minimum:

### 24.1 MEP Team Leader / Project Manager

Chartered/Professional Engineer with preferably at least 10 years of relevant experience and substantial experience in major infrastructure, port, airport or industrial projects.

### 24.2 Senior Electrical Engineer

Minimum 5 years of relevant experience in MV/LV power systems, generation, substations and industrial electrical infrastructure.

### 24.3 Senior Mechanical Engineer

Minimum 5 years of experience in HVAC and major mechanical infrastructure.

### 24.4 Plumbing Engineer

Experience in water supply, sewerage, pumping and treatment systems.

### 24.5 Fire Protection Engineer

Demonstrated experience in industrial and infrastructure fire-protection design.

### 24.6 Renewable Energy Engineer

Experience in Solar PV, battery storage and renewable-energy integration.

### 24.7 Electrical Power-System Specialist

Experience in load flow, short circuit, protection coordination, harmonics and power-quality studies.

### 24.8 ICT/ELV Engineer

Experience in telecommunications, structured cabling, CCTV, access control and integrated systems.

### 24.9 MEP BIM Coordinator

Experience in multidisciplinary BIM coordination.

### 24.10 Resident MEP Engineer(s)

Appropriately qualified engineers shall be deployed during construction based on the volume and complexity of works.

### 24.11 MEP Inspectors

Electrical and mechanical inspectors shall be provided as required for continuous site supervision.

Specialists shall additionally be provided for specific systems whenever required.

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## 25. CONSULTANT QUALIFICATIONS

The Consultant shall demonstrate:

- Experience in major infrastructure projects;
- Experience in port, airport, logistics, industrial or comparable developments;
- Experience designing MV/LV electrical networks;
- Experience with diesel power generation facilities;
- Experience with substations and underground utility networks;

- Experience in renewable-energy integration;
- Experience in water and wastewater systems;
- Experience in fire protection;

- Experience in marine/corrosive environments;
- Experience with construction supervision and commissioning.

Experience in tropical island environments and the Maldives will be considered advantageous.

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## 26. DESIGN RESPONSIBILITY

The Consultant shall retain full professional responsibility for the adequacy, safety, coordination and compliance of its designs.
Review or approval of Consultant submissions by MPL shall not relieve the Consultant of any professional or contractual responsibility.

The Consultant shall ensure that designs are:

- Safe;
- Code compliant;
- Constructible;
- Operable;
- Maintainable;
- Energy efficient;
- Appropriate for the marine environment;
- Economically optimized over the asset life;
- Capable of future expansion.

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## 27. HEALTH, SAFETY AND ENVIRONMENT

The Consultant shall incorporate HSE considerations throughout the design and supervision process.
Design risk assessments shall identify and mitigate risks associated with:

- Electrical hazards;
- Arc flash;
- Confined spaces;
- Working at height;
- Fuel storage;
- Fire;
- Heavy equipment;
- Maintenance access;
- Equipment replacement;
- Flooding;
- Chemical treatment systems.

The Consultant shall apply the principles of designing hazards out wherever reasonably practicable.

## 28. CLIMATE RESILIENCE

MEP infrastructure shall be designed considering the specific climate risks applicable to Thilafushi, including:

- High temperatures;
- High humidity;
- Salt-laden atmosphere;
- Extreme rainfall;
- Strong winds;
- Coastal flooding;
- Storm surge;
- Sea-level rise.

Critical MEP infrastructure such as substations, generators, switchgear, ICT facilities, pumps and emergency systems shall be located or protected to maintain appropriate resilience against foreseeable flooding and climate hazards.

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## 29. RELIABILITY, REDUNDANCY AND BUSINESS CONTINUITY

As a major national port facility, MEP systems shall be designed to minimize operational disruption arising from equipment failure.

The Consultant shall undertake reliability assessments and establish appropriate redundancy philosophies for critical infrastructure.

N+1 or equivalent redundancy shall be considered for:

- Generators;
- Transformers;
- Critical pumps;
- Fire pumps;
- Water systems;
- Cooling systems;
- UPS systems;
- Critical communication systems.

Single points of failure affecting critical port operations shall be identified and, where reasonably practicable, eliminated.

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## 30. FUTURE EXPANSION

The Consultant shall coordinate with the Port Master Plan and establish reasonable future growth allowances.

Provision shall be made, where justified, for future:

- Generators;
- Transformers;
- Substations;
- MV feeders;
- Cable ducts;
- Switchgear panels;
- Solar PV;
- Battery storage;
- Shore power;
- Electric cargo-handling equipment;
- EV charging;
- Reefer capacity;
- Buildings and operational areas.

Future provisions shall be clearly identified on drawings and within design reports.

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## 31. OPERATION AND MAINTENANCE PHILOSOPHY

Equipment shall be selected considering:

- Reliability;
- Local availability of technical support;
- Availability of spare parts;
- Ease of maintenance;
- Standardization;
- Energy consumption;
- Equipment life;
- Marine-environment suitability;
- Whole-life cost.

Where practicable, equipment types and manufacturers shall be rationalized to minimize the number of different spare parts and maintenance systems required by MPL.

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## 32. COORDINATION WITH MPL AND STAKEHOLDERS

The Consultant shall maintain close coordination with MPL and all other Project consultants and stakeholders.

Regular coordination meetings shall be held throughout the design and construction stages. The Consultant shall coordinate, as applicable, with:

- Maldives Ports Limited;
- Utility Regulatory Authority;
- Relevant ministries and government agencies;
- Environmental authorities;

- Fire and emergency authorities;
- Telecom providers;
- Civil, marine, architectural and structural consultants;
- Equipment suppliers;
- Construction contractors.

The Consultant shall be responsible for identifying and managing all MEP interfaces.

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## 33. AUTHORITY APPROVALS

The Consultant shall identify all approvals required for the MEP works and prepare the necessary technical documentation.
The Consultant shall support MPL in obtaining approvals from relevant authorities and utility providers.
Designs shall be revised where reasonably necessary to address authority comments.

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## 34. PROJECT PROGRAMME

The Consultant shall prepare and maintain a detailed MEP consultancy programme aligned with the overall Project programme.
The programme shall identify:

- Surveys and investigations;
- Concept design;
- Preliminary design;
- Detailed design;
- Authority submissions;
- Tender documentation;
- Procurement support;
- Construction supervision;
- Testing and commissioning;
- Handover;
- Defects Liability Period activities.

Critical interfaces and decision dates shall be clearly identified.

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## 35. QUALITY ASSURANCE

All design documentation shall undergo documented internal checking and interdisciplinary coordination prior to submission.
Design calculations and drawings shall clearly identify:

- Designer;
- Checker;
- Approver;

- Revision status;

- Date.

## 36. OWNERSHIP OF DOCUMENTS

All reports, calculations, models, drawings, specifications, schedules, Bills of Quantities and other Project-specific documents prepared under the Consultancy shall be provided to MPL in agreed native/editable and PDF formats in accordance with the consultancy agreement.

## Evaluation Criteria

1. **Technical (80%)**
    - Consultant's Relevant Experience – 20 points
    - Understanding and Methodology – 25 points
    - Work Plan and Project Approach – 10 points
    - Key Personnel – 40 points
    - Knowledge Transfer / Added Value – 5 points

2. **Financial (20%)**
    - Price – 100 points

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Maldives Ports Limited

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Maldives Ports Limited

## BID DATASHEET

The following information and requirements related to the Procurement of Mechanical, Electrical and Plumbing (MEP) Consultancy Services shall complement, supplement, or amend the provisions contained in the Instructions to Bidders. In the event of any conflict between the Instructions to Bidders, this Data Sheet, and any annexes or references attached hereto, the provisions contained in this Data Sheet shall prevail and govern.

| DS No. | **Data** | **Specific Instructions / Requirements** |
|---|---|---|
| DS 1. | Announcement No | **(IUL)113-PD/1/2026/97** |
| DS 2. | Title of Tender: | Mechanical, Electrical and Plumbing (MEP) Consultancy Services |
| DS 3. | Country / Region Location: | Male' / Maldives |
| DS 4. | Period of Bid Validity commencing on the submission date | 90 days |
| DS 5. | Acceptable Currency of Bid | ☒ Maldivian Rufiyaa (MVR)<br>☒ United States Dollar (USD) |
| DS 6. | Deadline for submitting requests for clarifications/ questions | Date and Time: **25th August 2026 14:00 GMT+5** |
| DS 7. | Contact Details for submitting clarifications/questions | tender@port.mv |
| DS 8. | Manner of Disseminating Supplemental Information to the RFP and responses/clarifications to queries | ☒ Direct communication to prospective Proposers by email |
| DS 9. | No. of copies of Bids that must be submitted | **Original: One (1)** |
| DS 10. | Proposal Submission Address | Maldives Ports Limited, Port Building, Boduthakurufaanu Magu, Male' |
| DS 11. | Deadline of Submission | Date and Time: **27th August 2026 14:00 GMT+5** |
| DS 12. | Allowable Manner of Submitting Proposals | ☒ Electronic submission of Bid (tender@port.mv) |
| DS 13. | Date, time and venue for opening of Proposals | Date and Time: **August 27, 2026 2:00 PM** |

| DS No. | Data | Specific Instructions / Requirements |
|---|---|---|
| DS 14. | Required Documents that must be Submitted to Establish Qualification of Bidders (In "Certified True Copy" form only) | ☐ Tender Submission Form<br>☒ Financial Proposal (Quotation)<br>☒ Company Profile<br>☒ Relevant Experience<br>☒ Technical Compliance Sheet<br>☒ Technical Datasheets / Product Brochures<br>☒ GA Drawings<br>☒ Ownership Documents<br>☒ Company Registration<br>☒ Warranty Details<br>☒ Delivery Schedule<br>☒ Experience Certificates<br>☒ Manufacturer's Authorization Letter (where the Bidder is not the OEM)<br>☒ Operation & Maintenance Manuals<br>☒ Spare Parts Catalogue<br>☒ Recommended Spare Parts List<br>☒ After-Sales Service & Technical Support Details<br>☒ GST Certificate (If applicable)<br>☒ Tax Compliance Certificate (if applicable)<br>☒ Compliance Declarations |

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Maldives Ports Limited

Announcement No: (IUL)113-PD/1/2026/97
Bid submission Date: **27th August 2026 14:00 GMT+5**

## BID SUBMISSION FORM

| | |
|---|---|
| **Tender Title:** | ---------- |
| **Price:** | ---------- |
| **Amount in Words:** | ---------- |
| **Bid Validity (Days):** | ---------- |
| **Company Name/Name:** | ---------- |
| **Date:** | ---------- |
| **Contact No:** | ---------- |
| **Company Registration No:** | ---------- |

## Company Seal / Signature

***Note:***

- ***Without this Bid Submission form your proposal will not be accepted.***
- *Please fill in all the contents in this form.*
- *Please submit a copy of the Company Registration Certificate.*
- *Please submit the declaration of conflict-of-interest form*

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Maldives Ports Limited

# CONFLICT OF INTEREST DECLARATION

**To:** Maldives Ports Limited (MPL)
**Announcement No:**
**Date:**
**Tender Title:** Mechanical, Electrical and Plumbing (MEP) Consultancy Services

*The bidder shall complete and submit this declaration with its bid.*

I, the undersigned, being the authorized signatory of **[Insert Company Name]**, hereby declare as follows:

**1. Conflict of Interest Disclosure**
Does the company, or any of its directors, employees, agents, associates, or representatives, have any actual, potential, or perceived conflict of interest with MPL personnel, other bidders, or any third party involved in this tender?
☐ Yes ☐ No
If "Yes", provide full details below.

**Details of Conflict of Interest, if applicable:**
[Insert details of any relationship, interest, or circumstance that may create bias, interference, or an unfair advantage in the tender process.]
All financial, non-financial, actual, potential, or perceived conflicts of interest involving any MPL employee, Board Director, bidder, vendor, or related party must be fully disclosed.

Please provide the relevant disclosure details in the table below:

| Employee/Director Name | NID No./ Passport Number | Designation & Department | Relationship |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

**2. Commitment to Fairness and Ethical Conduct**
1. We undertake to immediately notify Maldives Ports Limited if we become aware of any actual, potential, or perceived conflict of interest.
2. We declare that neither we nor our employees, associates, agents, shareholders, partners, consultants, relatives, or related parties have engaged in any corrupt, fraudulent, coercive, or collusive practice in connection with this bid.
3. We acknowledge MPL's right to inspect all records relating to the preparation of our bid and any resulting contract, whether or not the contract is awarded to us.
4. We confirm that no payments, gifts, inducements, or benefits have been offered, made, or promised by us or our related parties to any person involved in the procurement process on behalf of MPL, the Client, or the Employer.

## DECLARATION

We confirm that this declaration is made in good faith and with full understanding of its implications under the applicable laws of the Maldives.

**Authorized Signatory**
Signed on behalf of: [Bidder Name]
Name: _____
Position: _____
Address: _____
Date: _____

**Authorized Representative**
Signature: _____
Company Seal, if applicable: _____