



TERMS OF REFERENCE (TOR)

Project Title & Code: Preventive Maintenance/Inspection and Diagnosis of HVAC Systems 1G, 2G and 3G at the Passenger Terminal Building

Project Location: Port of Cagayan de Oro

I. PURPOSE AND SCOPE

The HVAC system at the Passenger Terminal Building plays a critical role in maintaining indoor air quality, thermal comfort and operational efficiency. Due to continuous operation and exposure to varying load conditions, regular preventive maintenance and necessary repairs are required to ensure system reliability and longevity.

The project aims to ensure the safe, reliable, efficient and continuous operation of the HVAC systems installed at the Passenger Terminal Building through preventive maintenance, comprehensive inspection, testing and diagnosis.

II. SCOPE OF WORKS/SERVICES

The contractor shall undertake the project in accordance with the accepted industry standards and procedures:

1.) Inspection and Assessment

- Conduct visual inspection of all HVAC components under Systems 1G, 2G and 3G.
- Check refrigerant levels and conduct refrigerant leak testing.
- Inspect and assess thermostats and control systems error for accuracy and functionality.

2.) Supply of technical expertise, labor, materials, tools and equipment for the deep cleaning of the following components of each system:

- a.) Fan Coil Units
- b.) Evaporator Coil Units
- c.) Condensing Coil Units
- d.) Air Filters and Fans
- e.) Air Vents and Ducts



3.) Location of Units

System 1G (Ground Floor)

- a.) 10 units 5.0HP Ceiling Cassette Type (System 1G-a)
- b.) 1 unit 2.0HP Wall Mounted Type (System 1G-c)

System 2G (Ground Floor)

- a.) 11 units 5.0HP Ceiling Cassette Type (System 2G-a)
- b.) 3 units 1.0HP Wall Mounted Type (System 2G-d)

System 3G (Ground Floor)

- a.) 9 units 5.0HP Ceiling Cassette Type (System 3G-a)
- b.) 2 units 4.0HP Ceiling Cassette Type (System 3G-b)

4.) Conduct of System Reprocess for Systems 1G, 2G and 3G

- Flushing/cleaning of refrigerant lines and components to remove contaminants.
- Replacement of filter driers (if required)
- Evacuation of the system using a vacuum pump to remove air.
- Holding vacuum test to ensure no presence of leaks or moisture.
- Oil checking and replenishment (if applicable).
- System start-up and operational testing.

5.) Refrigerant Management

- Check refrigerant levels and refill refrigerant (R 410-A) if necessary, ensuring compliance with environmental regulations.
- Re-foaming or Re-Insulation on HVAC Copper Tubes of Systems 1G, 2G and 3G.

6.) Error Code Management

- Detecting System Fault indicated at Control Panel
- Troubleshooting Error Code
- Logging and Tracking Corrective Actions

7.) Testing and Commissioning

NOTE:

DAIKIN AUTHORIZED SERVICE CENTER OR SERVICE PROVIDER

- 1.) Warranty: 6 Months on Workmanship**
- 2.) Warranty: 12 Months on Parts/Materials**
- 3.) Submit Detailed Technical Service Report shall be submitted and Date of Completion is stated.**

All works shall conform to applicable engineering standards, manufacturer specifications, and PPA PMO MOC guidelines.

III. CONTRACTOR DELIVERABLES

The Contractor shall be responsible for the complete execution and successful completion of the project titled “***Preventive Maintenance/Inspection and Diagnosis of HVAC Systems 1G, 2G and 3G at the Passenger Terminal Building***”.

1.) Pre-Maintenance Deliverables

- **Mobilization Plan and Work Schedule**
 - Detailed Timeline of Activities (Daily/Weekly Schedule)
 - Manpower Deployment Plan
- **Methodology Statement**
 - Step-by-Step Procedures for Preventive Maintenance and Repair
- **Safety Plan**
 - Safety Protocols and PPE Requirements
- **Tools and Equipment List**
 - Complete List of Diagnostic Tools, Testing Equipment and Equipment to be used

2.) Inspection and Assessment Reports

- Initial System Condition Report
 - Status of all components (VRF units, Ceiling-Mounted Units, Split-Type Units, Piping, Controls)
 - Identification of Defects, Leaks, Abnormal Noise/Vibration and Inefficiencies
- Electrical and Mechanical Evaluation Report
- Refrigerant Level and Pressure Assessment

3.) Preventive Maintenance Outputs

- Cleaning of Indoor and Outdoor Units (Filters, Coils, Drain Lines)
- Checking and Tightening of Electrical Connections
- Calibration of Thermostats and Control Systems

4.) Repair and Rectification Works

- Leak Detection and Repair (Refrigerant Piping System)
- Refrigerant Recovery, Vacuuming and Recharging
- System Reprocessing and Performance Restoration



5.) Testing and Commissioning

- Functional Testing of all Units under each system of 1G, 2G and 3G
- Performance Verification (Cooling Capacity, Airflow, Temperature Differentials)
- System Balancing Optimization

IV. PRICING, PROCUREMENT METHOD & PAYMENT TERMS

The **Approved Budget for the Contract (ABC)** is **Four Hundred Twenty Thousand (Php 420,000.00) inclusive of VAT.**

This procurement shall be undertaken through **Small Value Procurement** in accordance with Republic Act No. 12009 (New Government Procurement Act) and its Implementing Rules and Regulations (IRR).

Payment shall be processed **only upon 100% completion** and subject to the submission of the following:

- Detailed Test Result and Service Report
- Inspection and Acceptance Report
- Certificate of Completion and Acceptance

V. CRITERIA FOR EVALUATION AND AWARD

Evaluation and Award for the **“Preventive Maintenance/Inspection and Diagnosis of HVAC Systems 1G, 2G and 3G at the Passenger Terminal Building”** shall be conducted in accordance with **Republic Act No. 12009** and its **Implementing Rules and Regulations (IRR)** specifically **Small Value Procurement (SVP)** ensuring transparency, accountability and value for money.

The Procuring Entity shall adopt the **Most Economically Advantageous Responsive Bid (MEARB)**, considering both technical quality and financial competitiveness to ensure best value for the government as the basis for selection and award.

VI. RESPONSIBILITIES OF THE BIDDER

The contractor shall undertake full responsibility for proper execution, completion and warranty of all works under this project in accordance with applicable standards, manufacturer requirements and NGPA regulations.

General Responsibilities

- Perform all works in accordance with approved plans, specifications and scope of work.





- Provide all necessary labor, tools, equipment, supervision and consumables required to complete the project.
- Ensure that all activities comply with applicable codes, safety standards and environmental regulations.
- Coordinate closely with End-User/Procuring Entity for scheduling and work execution to avoid disruption of terminal operations.

VII. RESPONSIBILITIES OF THE PROCURING ENTITY

The procuring entity shall ensure proper oversight, coordination and support for the effective implementation of the project in accordance with the NGPA and its Implementing Rules and Regulations.

General Responsibilities

- Assign Project Engineer/Inspector to oversee and monitor the implementation of works.
- Ensure that all works performed by the Contractor are in accordance with the approved Terms of Reference, Technical Specifications and Contract Provisions.
- Conduct regular inspections and validation of completed maintenance and repair activities.
- Conduct joint inspections with the Contractor before, during and after project implementation.
- Verify and certify the completion of works based on agreed performance standards and deliverables.

VIII. PROJECT DURATION

The winning bidder shall complete all works under this project with *Twenty-Five (25)* calendar days from the **date of receipt** of the **Purchase Order (PO)**.

IX. PAYMENT TERMS

Payment shall be made to the winning bidder only upon full completion and final acceptance of the work by the PMO MO/C, through the ESD, upon submission of all required billing and supporting documents.

No advance or progress payment shall be allowed under this Contract. The total contract amount shall be released after project completion, subject to the usual government accounting, auditing and tax deduction requirements.





X. PENALTIES FOR DELAY

For **unjustified delay in delivery**, Liquidated Damages shall be imposed at a rate of **0.10% (One-Tenth of One Percent)** of the unperformed portion of the contract per calendar day of delay.

The total Liquidated Damages shall **not exceed ten percent (10%) of the total contract price**, after which the Procuring Entity may rescind the contract in accordance with rules and regulations under the NGPA.

XI. BIDDER QUALIFICATIONS AND OTHER INFORMATION

The Bidder must meet the following minimum qualifications:

1.) Eligibility Requirements

The Bidder must be an **Authorized Service Provider of Daikin** and shall submit the following:

- **Valid Certificate of Authorized Service Provider**
 - Issued by Daikin or Its Official Distributor
- **Business Registration Documents**
 - DTI/SEC Registration
 - Valid Mayor's/Business Permit
 - BIR Registration
 - Updated PhilGEPS Registration Certificate

2.) Technical Qualifications

The Bidder must demonstrate capability to service VRV and Split-Type HVAC Systems:

- At least **three (3) to five (5) years experience** in VRV HVAC System Preventive Maintenance and Repair
- Proven experience with **Daikin VRV Systems and Inverter-Type Units**
- Submission of **list of completed similar projects**

3.) Professional Requirements

The Bidder shall assign qualified personnel with the following credentials:

- Licensed Engineer (Preferably with HVAC Specialization)
- Certified HVAC Technicians
 - With Trainings or Certification from Daikin or Equivalent.



4.) Tools and Equipment Capability

The Bidder must possess the following minimum tools and equipment:

- Refrigerant Recovery Machine
- Vacuum Pump with Micron Gauge
- Digital Manifold Gauges
- Leak Detection Equipment (Electronic and/or Nitrogen Setup)
- Electrical Testing Instruments (Multimeter, Clamp Meter, Insulation Tester)
- Coil Cleaning Equipment (Pressure Washer)

5.) Service Capability Requirements

- Capability to Perform Diagnostics, Repair and Reprogramming of Daikin Systems
- Access to Genuine Spare Parts and Refrigerants
- Ability to Provide Technical Support and After-Sales Service
- Availability for Emergency Response within Agreed Time

6.) Warranty and After Sales Support

- **6 Months Warranty on Workmanship**
- **12 Months Warranty on Parts/Materials**
- Manufacturer's Warranty for all Supplied Parts
- Commitment to **Provide Post-Maintenance Technical Support**

7.) Compliance Requirements

The Bidder shall comply with:

- Applicable **Philippine Mechanical and Electrical Codes**
- Occupational Safety and Health Standards (OSHS)
- Environmental Regulations on Refrigerant Handling and Disposal

Must submit the following eligibility documents:

TECHNICAL DOCUMENTS	FINANCIAL DOCUMENTS
1.) Updated PhilGEPS Registration 2.) Omnibus Sworn Statement/Eligibility Declaration (RA 12009 Format) 3.) Bid Form (RA12009 Format) 4.) Other documents deemed necessary for minimum qualification.	1.) Duly Accomplished Request for Quotation (RFQ)



PHILIPPINE
PORTS
AUTHORITY



This TOR takes effect upon approval by the Port Manager and remains valid until full and satisfactory completion of the project.

Prepared by:

GABRIELE B. MONDOÑEDO
Acting Principal Engineer

Noted by:

MARC M. AVELLANA
ESD Manager

Approved by:

Digitally signed
by Fernando B.
Mapalo, Jr.
FERNANDO B. MAPALO, JR.
Port Manager, PMO MOC

