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Method Statement for Replacement and Installation of BTU Meters and Thermowells

Client:
Project:
Location:

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BuildMEP

METHOD STATEMENT

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METHOD STATEMENT

1.0 PURPOSE

This method statement is applicable for the safe replacement and installation of BTU meters and sensor thermowells on the chilled water system for AHUs. The objective is to ensure high-quality workmanship, compliance with manufacturer (Landis+Gyr) recommendations, and adherence to project and safety standards.

2.0 SCOPE

This procedure covers:

- Replacement of two BTU meters (DN65 & DN80 – Landis+Gyr UH50 series)
- Installation of five sensor thermowells on supply and return CHW lines
- Testing, commissioning, and reinstatement

3.0 RESPONSIBILITIES

3.1 Project Manager

- Ensure proper planning, scheduling, and availability of required materials and resources
- Coordinate with the client and FM team for necessary shutdowns and approvals
- Ensure safety and quality compliance throughout the process

3.2 Site Engineer

- Supervise and execute the installation by the approved method
- Distribute responsibilities among the site team
- Monitor work progress and submit daily reports
- Coordinate with HSE Officer for a safe working environment
- Ensure all safety measures are implemented per HSE plan
- Conduct daily safety briefings and ensure proper PPE usage
- Manage work permits and maintain a clean and hazard-free work area

3.3 Technicians / Foreman

- Carry out all installation activities as per instructions and safety standards
- Ensure tools and equipment are handled properly

4.0 EQUIPMENT & TOOLS

- Tool box (standard hand tools)
- Torque wrench
- Pipe wrench and adjustable spanners
- Welding machine (if thermowell sockets to be welded)
- Drilling machine
- Ladder and scaffold (if working at height)
- Fire extinguisher
- PPE (gloves, helmets, safety shoes, goggles, harness)
- Lighting equipment for night work

METHOD STATEMENT

5.0 PROCEDURE

5.1 Safety

- Ensure all personnel wear proper PPE
- Secure Hot Work Permits and Work-at-Height permits where applicable
- Maintain adequate lighting and ventilation
- Use fire blanket and extinguisher during welding

5.2 Sequence of Work

1. **Night Shift Planning:**
 - Work to be conducted only during night to avoid summer heat and meet site regulations
2. **Isolation and Draining:**
 - Coordinate with FM/2M Contracting to isolate and drain chilled water from the AHU system
3. **Dismantling Existing Meter:**
 - Loosen flange bolts of existing BTU meter
 - Disconnect sensor cables
 - Remove the meter completely and safely store or dispose as per instructions
4. **Installing New Meter:**
 - Position the new Landis+Gyr BTU meter with same specification
 - Ensure correct flow direction and flange alignment
 - Insert new gaskets and bolt the meter, tightening to manufacturer torque specification
5. **Thermowell Installation:**
 - Mark and drill holes on both supply and return pipes
 - Weld threaded sockets or use existing ports
 - Insert and tighten thermowells securely
6. **Sensor & Cable Connection:**
 - Insert paired Pt500 sensors into thermowells
 - Connect to BTU meter integrator and route cables neatly
7. **System Restoration:**
 - Refill and re-pressurize the chilled water line
 - Check for leaks at all flanges and thermowells
 - If leak-free, proceed to next step
8. **Insulation Works:**
 - Apply insulation over BTU meter, thermowells, and disturbed pipework
 - Use vapor seal tape and aluminum cladding where applicable
9. **Repeat for Second Meter:**
 - Follow steps 3 to 8 for remaining BTU meter
10. **Final Checks & Commissioning:**
 - Power on the meters and verify sensor readings
 - Test M-Bus communication with BMS
 - Record initial readings and report completion

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6.0 QUALITY CONTROL & INSPECTION

- Confirm model numbers and orientation of BTU meters
- Ensure sensor probes are installed in correct temperature lines (supply/return)
- Verify leak test and flange torque
- Submit inspection request for consultant/client sign-off

7.0 REFERENCES

- Landis+Gyr UH50 Installation Manual
- Qatar Construction Specifications (QCS 2014)
- Project HSE Plan and Approved Drawings

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