

Method Statement for the Testing and Commissioning of FM 200

1.0. SCOPE :

This Method Statement describes/defines the procedures involved in the Testing, Commissioning of Fire Fighting System FM 200 to confirm proper operation

2.0. PURPOSE :

This Work Method Statement (WMS) is to describe the method of which the FM 200 Testing & Commissioning is carried out for this project.

The aim and /or benefits of complying with this WMS include: Program Compliance, Health, Safety and Quality and Environmental company policy compliance.

3.0. REFERENCES :

- 3.1 Mechanical Approved materials & equipment (Data sheet/Submittal)
- 3.2 Approved Project Drawing(Plumbing)
- 3.3 Project Specifications, UAE Standards, NFPA 90A

4.0. DEFINITION :

NFPA - National Fire Protection Association

OD - Outer Diameter

PTFE - Polytetrafluoroethylene

5.0. RESPONSIBILITIES :

5.1 Project Manager will be responsible for the following:

- 5.1.1 Overall responsible for the implementation of this method statement.
- 5.1.2 Responsible for ensuring that the work is performed in accordance with the specification and with the time & constraints.
- 5.1.3 Coordinate with MEP Coordinator (Contractor) for obtaining the necessary resources for the project deployed as required.
- 5.1.4 Submit progress report as per contractual requirements to Main Contractor.
- 5.1.5 Ensure that all required submittal are made in timely manner.

5.1.6 Coordination with the Contractor, Company, Engineers, Safety personnel and subcontractor for the safety and quality during the execution of the project.

5.2 *Site Mechanical Engineer will be responsible for the following:*

5.2.1 Ensure that the activities are carried out according to the Specification, drawing and approved Method Statement.

5.2.2 Ensuring Submittals and Company approval on relevant MEP drawing/ Material/ Suppliers/ Subcontractors/ Method Statement and Quality/HSE Documentation.

5.2.3 Arrange all materials and tools required for installation as per agreed project schedule.

5.2.4 Coordinate to MEP Coordinator & Construction Manager for obtaining the necessary resources for the project & deploy as required.

5.2.5 Provide all necessary information and distribute the responsibilities to his construction team.

5.2.6 Monitor that all in process tests are carried out and obtained approval from Client/ Main Contractor/ Consultant.

5.2.7 Monitoring & ensuring that the works is performed in accordance within the time and cost constraints.

5.2.8 Coordinate with the Safety Engineer to ensure that the works are carried out in a safe working practice.

5.2.9 Pass all the revised information to the site General foreman and ensure that it's being carried out properly for entire MEP System.

5.2.10 Ensure all Mechanical work activities are in conformance with approved shop drawings, contract requirements/ specification, and Method Statement.

5.2.11 Ensure that relevant and required Materials are requested on time in correct quantities.

5.2.12 Provide Approved Shop drawings to site Engineer for proper site Installation.

5.2.13 Advising Site Engineer on all Technical aspects regarding work methods, sequence of installation, testing and commissioning.

5.2.14 Follow up site activities and ensure all relevant non-conformance issues (if any) are resolved and cleared out. Communication with QA/QC Engineer and HSE Engineer for preventive and corrective actions.

5.2.15 Coordinate the progress of main contractor works to ensure installations of MEP works are considering preventive and corrective actions

5.2.16 Coordination with other Contractors/ Company to provide solutions affecting design development / Coordination matters.

5.2.17 Responsible for the coordination of all electromechanical activities, coordination with other discipline and between various subcontractors on sites.

5.2.18 Reviewing of MEP daily, Weekly & Monthly progress reports.

5.2.19 Ensuring MEP subcontractor Payment Certificates are reviewed and approved for payment

5.2.20 Responsible for all related activities prior to completion of the project.

5.3 *Charge-hand will be Responsible for the following:*

5.3.1 Carrying out the works and the proper distribution of all the available resources in coordination with the Site Engineer on a daily basis.

5.3.2 Continuous coordination and following Site Engineers instruction to meet quality requirements during the job execution.

5.3.3 Incorporate all the QC & Safety requirements as requested by the company's representative.

5.3.4 Report to Site Engineer the accomplishment and problem encountered on daily basis.

5.4 *QA/QC Department will be responsible for the following:*

5.4.1 Ensure all Inspections are raised and conducted as per the Contract Specifications, PQP, & ITPs.

5.4.2 Ensure all Inspections, proper tools & tackles and manpower are used at all stages of work.

5.4.3 Ensure Call current issues of procedures, approved material and shop drawing and standards are available at the point of use.

5.4.4 Ensure the works comply with the contract requirements/ approved shop drawings to serve the purpose.

5.4.5 Ensure the Total quality for Installation work. He shall liaise with Company for Inspection of Installation works.

5.4.6 Inspect for any damages during handling, & Storage.

5.4.7 Monitor the quality of work and ensure that fulfillment of specified requirement and that all quality records related to work are completed.

5.4.8 Ensure the work is completed as per quality requirements. Contractor shall inspect the same work to initiate ITR for company approval.

5.4.9 Maintain comprehensive inspection and test records for any further references.

5.5 *Safety Officer/ Engineer will be responsible for the following:*

5.5.1 Tool Box talk has to be conducted and all the hazards have to be identified before starting the work.

5.5.2 To make sure that the Personnel Protective Equipment (PPE) are used by the Task Force during executions of work at site.

5.5.3 Risks related to the activity shall be assessed and addressed as required.

5.5.4 To provide training for the work force in order to execute the activity safely.

5.5.5 Carry out regular and random inspection on site and record observations.

6.0. METHOD OF WORK :

6.1. Equipment:

The following equipment will be used for the scope of work covered under this method statement.

6.1.1 Smoke Testing kit

6.1.2 Hand Tools Box

6.1.3 Pressurizing Pump

6.1.4 General Tool Box

6.1.5 Spanner Set

6.1.6 PPE's

7.0. PROCEDURE / EXECUTION OF WORK :

7.1. PRE-COMMISSIONING CHECKS:

7.1.1 Before carrying out the commissioning activities of the system, the following pre-commissioning checks shall be ensured:

7.1.2 The installation activities of the system have been completed.

7.1.3 The system has been checked against the approved shop drawings.

7.1.4 Ensure that the discharge nozzles and orifice units have been installed in accordance with the calculations / node diagram.

- 7.1.5 The leak test of the piping has been completed and accepted.
- 7.1.6 Ensure that the “puff test” of the piping is carried out and the pipes are free from obstruction.
- 7.1.7 Actuation hose and discharge hose are rigidly fitted.
- 7.1.8 Check the cylinder gauges to confirm that the pressures in the cylinders are in the acceptable range.
- 7.1.9 The installation of junction boxes and associated cabling / installation of devices are completed (by others).
- 7.1.10 Checks the terminations to all fire alarm and detection devices pertaining system (i.e., gas extinguishing control panel, detectors, remote indicators, bell, sounder / strobe) are completed (by others).
- 7.1.11 Cabling and interfacing connections to the panel are completed (by others).
- 7.1.12 All the identification and warning signs flow directions are marked as appropriate.
- 7.1.13 Ensure that the electric actuator (solenoid) is removed from the master cylinder.
- 7.1.14 Room Integrity Test (RIT) of the protected room is completed and the results are found acceptable.

7.2. Commissioning Procedure :

Before commissioning, ensure that the electric actuator (solenoid) is removed from the master cylinder.

7.2.1 Confirmed fire signal from Gas Extinguishing Control Panel the sequence of operations as following:

- Pre-discharge stage sounder /beacon at entrance door of the protect room activate.
- On expiry of the time delay period, confirm that the actuator is activated.

7.2.2 Operate the gas discharge pressure switch and confirm the following:

- Discharge stage sounder /Beacon at entrance door of the protected room is active.
- Gas discharge indication on the Gas Extinguishing Control Panel / Main FACCP.

7.2.3 Operate the Manual Release and confirm the following sequence of operation:

- Pre-Discharge stage sounder/Beacon at entrance door of the protected room is active.
- On expiry of time delay period, confirm that the electric actuator (solenoid) is activated.

7.2.4 *Placing the system in the service:*

- On completion of the above tests, reset the Gas Extinguishing Control Panel and install the electric actuator (solenoid) on the master cylinder to place the system in service.
- Install the Manual Release Lever to the master cylinder.

7.3. SAFETY :

7.3.1 All appropriate safety personal protective equipment shall be worn by workmen such as Helmet, cover all clothing, safety shoes, goggles and gloves whenever required.

7.3.2 If welding works is required, additional safety equipment shall be worn by all welders such as; welding mask and goggles, apron and welding gloves

7.3.3 Where work is high level, only approved scaffolding and safety belts can be used.

7.3.4 During execution of hot works, a fire blanket & extinguisher shall be positioned at all times.