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|----------|--|--------------------|--|--------------------------|
| HEXATECH | Method Statement for<br>Public Address System Installation | Issue No.:<br>1    | Document<br>Effective Date:<br>01 Jul 2019 | Page 1 of 4              |
|          |  | Revision No.:<br>0 |  | Document Ref:<br>MS-E022 |

## **1.0 OBJECTIVE**

This procedure provides installation for Extra Low Voltage Systems (ELV), structure cabling, quality and safety controls pertaining to the project implementation requirement to suit customer's requirement.

## **2.0 SCOPE OF WORKS**

The method of ELV installation works specified herein shall be in accordance / compliance to latest IEC, IEE, Malaysian Standards (MS) and local authority standards.

## **3.0 TOOLS AND EQUIPMENT TO BE USED**

| <b>ITEM</b> | <b>DESCRIPTION</b>   |
|-------------|--|
| 1           | Wireman kit such as insulated screwdriver, cutter, wrench, cable lug crimping tool, pier, test pen, etc.         |
| 2           | Ladder and scaffolding.  |
| 3           | Walkie-talkie or handphone (for peer to peer communications).  |
| 4           | Grinders, Rotary Hammer Drills, Impact Drills, Electrical drill or portable battery operated drill and trolleys. |
| 5           | Spot light, torchlight, battery operated head band light, single phase extension cord.                           |
| 6           | PA tester and multi-meter.   |

## **4.0 SAFETY & ENVIRONMENTAL REQUIREMENT**

- 4.1 All installation works are to be carried out in compliance with client's safety procedures and other local statutory regulations.
- 4.2 Ensure each technician is safety inducted and equipped with the necessary personal protective equipment (PPE) to be worn at all time.
- 4.3 The use of worker's safety harness is compulsory for working height of three (3) meter and above. Worker's safety helmet for indoor electrical installation works may be exempted.
- 4.4 All the tools and equipment used at site must be in compliance to safety standards requirement.

|          |  |                    |  |                          |
|----------|--|--------------------|--|--------------------------|
| HEXATECH | Method Statement for<br>Public Address System Installation | Issue No.:<br>1    | Document<br>Effective Date:<br>01 Jul 2019 | Page 2 of 4              |
|          |  | Revision No.:<br>0 |  | Document Ref:<br>MS-E022 |

- 4.5 The site of all work activities will be kept in a clean and tidy manner. To adopt 'clean as you work' worker attitude.
- 4.6 Work areas shall be secured with proper safety tape and work in progress caution warning signage whenever necessary.
- 4.7 If work is to be carried out in an enclosed area, the door entrance or exit door should have proper safety and work in progress caution signage.

## 5.0 **OVERVIEW**

- 5.1 The quality control process for all equipment involves the following stages:

### Stage 1 : Unit Testing

- Performed by the manufacturer at a component level;

### Stage 2 : Installation Work Inspections

- Performed by the project manager during the installation process. The objective is to identify poorly installed equipment or areas of the installation that do not comply with the provisions of the design specifications. Provided the defect is identified at an early stage, the cost of remedial work and delays to the project program can be minimised;

### Stage 3 : Final Commissioning

- Performed by the installation contractor and witnessed by the customer or customer's representative (consultant, etc).

## 6.0 **WORK METHOD STATEMENT**

### **6.1 Preparatory Works**

- 6.1.1 Determine the scope of work from project specifications and drawings;
- 6.1.2 Ensure shop drawings are prepared, reviewed and verified to be in compliance with project specifications. Submit and obtain customer / Consultant approval;
- 6.1.3 Ensure the selection of equipment and accessories are in accordance with project specification.

### **6.2 Inspection Of Equipment, Hardware, Software, Device and System**

- 6.2.1 Ensure all trunkings, conduits or cable trays have been effectively secured to support currently installed.

|          |  |                    |  |                          |
|----------|--|--------------------|--|--------------------------|
| HEXATECH | Method Statement for<br>Public Address System Installation | Issue No.:<br>1    | Document<br>Effective Date:<br>01 Jul 2019 | Page 3 of 4              |
|          |  | Revision No.:<br>0 |  | Document Ref:<br>MS-E022 |

- 6.2.2 Ensure all cables are proper laid in conduit / trunking.
- 6.2.3 Check the termination tools / machines to ensure in good condition.
- 6.2.4 Ensure all connections have been correctly terminated and protection against faults and interference.
- 6.2.5 Ensure all associated equipment such as power supplies and switches have been connected correctly and secured appropriately.
- 6.2.6 Inspection to all devices, hardware, accessories and equipment such as camera, EM Lock, Push Button, and etc.
- 6.2.7 Check the installation of accessories or devices.
- 6.2.8 Check the testing tools / machines to ensure in good condition.
- 6.2.9 Perform all hardware and software pre-commissioning tasks.
- 6.2.10 Final testing and commissioning by professional / qualify engineer.

## **7.0 SITE TESTING & COMMISSIONING**

- 7.1 Commissioning tests shall be performed to assess the overall functionality of the all the system as per the standards and design specifications.
- 7.2 The commissioning tests require at least two testers. One tester shall be located at the operator workstation and the other at the devices location.
- 7.3 As each commissioning test is performed, the results shall be recorded on the appropriate commissioning test schedule. Each test performed shall be marked as a pass or fail. Any comments regarding abnormal operation in particular to failed tests shall be recorded in the comments section of the commissioning schedule.

### **7.4 Public Address System**

Step 1 : Check the cables connected to all equipment;

Step 2 : Switch on the power supply of all equipment;

Step 3 : Verify the functionality of microphone, press the button to paging;

Step 4 : Verify the speaker functionality and zoning are correct accordingly to shop drawings.

|          |  |                    |  |                          |
|----------|--|--------------------|--|--------------------------|
| HEXATECH | Method Statement for<br>Public Address System Installation | Issue No.:<br>1    | Document<br>Effective Date:<br>01 Jul 2019 | Page 4 of 4              |
|          |  | Revision No.:<br>0 |  | Document Ref:<br>MS-E022 |

## **8.0 HAND OVER & DEMOBILIZATION**

- 8.1 Upon full completion of the newly installed ELV items and materials, ensure all work area are thoroughly cleaned and made tidy before the conduct of final work inspection.
- 8.2 Conduct another round of inspection together with the customer by using the work inspection checklist form (refer to Work Inspection Checklist Form Document Ref: IMP-REC-WIP). Obtain customer's verification and acknowledgement signatory on the said form.
- 8.3 If required, take immediately corrective / rectification / repair action appropriately.
- 8.4 Demobilization of all tools, equipment and materials at work site are to be carried out upon obtaining safety and security clearances.
- 8.5 Arrange necessary transportation to ferry back the tools, equipment and materials to designated factory/store by plotting the travel route and obtaining the necessary access-way clearance.

End