



F9MR 04 – Prepare Work Locations

This Unit comprises of the following combinations of National Occupational Standards (NOS) shown below by award it appears in.

G9X8 23 Heating and Ventilating Industrial and Commercial Installation - M7

G9X9 23 Heating and Ventilating Ductwork Planning and Installation - M7 and M8

G9XA 22 Maintain Heating and Ventilating Systems - M7

G9XC 22 Heating and Ventilating Industrial and Commercial Installation - M7

G9XD 22 Heating and Ventilating Ductwork Installation - M7 and M33

G9XE 23 Service, Maintain and Commission Building - M7 and M8

GD7M 22 Install and Maintain Refrigeration and Air Conditional (RAC) Systems - M7

(M7)SUMMES7

Prepare to carry out work



Overview

This unit is for people who make the preparations prior to work being conducted and is relevant to those who prepare for both installation and service and maintenance work.

The person carrying out this work must review the work location to ensure that it is safe for the work to be carried out and that all of the necessary checks and tests have been conducted. This includes checking the work location for any existing damage or defects prior to commencement of the work.

The person carrying out this work must ensure that all the necessary preparations are made so that the work can take place safely and in accordance with current industry standards and regulations.

(M7)SUMMES7

Prepare to carry out work

Performance criteria

You must be able to:

- P1 carry out a review of the work location and identify factors which will impact on the work
- P2 ensure that job information and documentation is current and relevant and that, where relevant, their plant, instrument, equipments, tools and data are fit for purpose, and are of the correct quantity, and size
- P3 identify from job information the point(s) within the work process where liaison with other persons will be necessary and identify whom these persons will be
- P4 confirm that the relevant people have job information on all key aspects of the work
- P5 seek authorisation from the relevant person(s) prior to commencing work that it is safe to undertake the work as specified
- P6 ensure that safety provisions within the immediate work location, including access to it, conform to the requirements of health and safety legislation
- P7 report to the job supervisor, or line manager any pre-work damage or defects to existing equipment or building features and confirm that this existed prior to the work commencing
- P8 wear suitable personal protective equipment throughout preparation activities
- P9 check the external condition of materials for any damage and the quantity against relevant paperwork
- P10 carry out preparatory work as necessary

(M7)SUMMES7

Prepare to carry out work

Knowledge and understanding

You need to know and understand:

- K1 the legal duties of employers and employees for health and safety as required by the Health and Safety at Work Act 1974 and other relevant legislation appropriate to the work location (e.g. EAWR, Wiring Regulations, COSHH, CDM and Building Regulations)
- K2 the regulations and working practices that will affect the work activity such as regulations governing design, installation, operation and routine maintenance, and their intended function
- K3 how to carry out an assessment of risks and plan a safe system of work with regard to the work activity
- K4 the importance of checking that the work location is safe with regard to access, others working in that location and that permits to work are provided where required
- K5 the importance of carrying out visual inspections and tests as well as reviewing the work location for planning purposes to determine the work requirements
- K6 the importance of wearing appropriate personal protective equipment (PPE)
- K7 how to ensure that the customer is fully briefed on all aspects of the work programme
- K8 the importance of protecting property prior to starting work and identifying pre-existing damage to property and building fabric
- K9 whether tools are fit for purpose and that they have a current calibration certificate
- K10 how to calculate resource requirements for materials, tools and other equipment
- K11 secure storage procedures for tools, equipment, materials and components – basic stores procedures to ensure security and to minimise loss or wastage
- K12 the implications of different working conditions on the equipment and components and/or system

(M7)SUMMES7

Prepare to carry out work

Developed by SummitSkills

Version number 1

Date approved October 2008

Indicative review date October 2010

Validity Current

Status Original

Originating organisation SummitSkills

Original URN M7

Relevant occupations Building and construction; Skilled Trades Occupations

Suite Mechanical Engineering Services

Key words prepare, installation

(M8)SUMMES8

Identify systems, equipment and components



Overview

This unit is about dealing with a customer identifying their requirements and providing commercially acceptable solutions to them. It covers making changes and alterations required by the customer throughout the work.

It is about assessing the implications, impact and feasibility of alterations and changes to the system.

This unit is also about recognising when variations to the work programme are necessary and knowing how to go about agreeing these, and the relevant people with which to liaise.

(M8)SUMMES8

Identify systems, equipment and components

Performance criteria

You must be able to:

- P1 identify and record the customer job requirements
- P2 obtain and record information on the work location and features
- P3 identify any areas of the proposed system or components where compliance with industry requirements is necessary
- P4 identify alternative system options, including environmental technologies, and taking into consideration factors such as efficiency (e.g. energy or water)
- P5 explain clearly to relevant people system options which meet identified requirements and those which offer additional benefits such as energy or water efficiency
- P6 obtain customer agreement to the proposal
- P7 carry out and apply relevant calculations to determine system component requirements
- P8 present the system proposal in a manner which enables customer agreement
- P9 confirm that the completed system meets requirements
- P10 inform the relevant person(s) immediately when changes are necessary before work can commence
- P11 record and agree with the relevant person, necessary changes to the work that have cost implications and act on those changes as appropriate

(M8)SUMMES8

Identify systems, equipment and components

Knowledge and understanding

You need to know and understand:

- K1 how to obtain information from site drawings and plans
- K2 how to carry out a review of the location
- K3 the range of documentation detailing industry requirements
- K4 how to identify possible proposals which meet the following: customer requirements, site structures and features, and industry requirements
- K5 the range of environmentally friendly materials, products, procedures and energy saving devices applicable to their work and the benefits of their use
- K6 how to obtain agreement from the customer to progress a selected system proposal
- K7 the range of job information that is required to develop proposals for work on new buildings and existing properties
- K8 positioning requirements for components within systems and standard system layouts
- K9 how to calculate the requirements of system components – size and specification
- K10 methods of presenting information to customers through the use of drawings, specifications and quotations
- K11 the authority and organisational procedures at the site relevant to work plans and changes to the work plans
- K12 how to negotiate variations to work programmes, under what circumstances this might be necessary and the need to obtain written acceptance to major work or material variations and the organisational requirements for reporting changes

(M8)SUMMES8

Identify systems, equipment and components

Developed by SummitSkills

Version number 1

Date approved October 2008

Indicative review date October 2010

Validity Current

Status Original

Originating organisation SummitSkills

Original URN M8

Relevant occupations Building and construction; Skilled Trades Occupations

Suite Mechanical Engineering Services

Key words customer requirements, alterations

(M33)EUSDSG3.50

Carry out safe electrical working practices on electrical control (and supply) for mechanical building services systems



Overview

This unit is for people who are required to disconnect and/or dismantle systems and components with an electrical supply for,

1. Refrigeration
2. Air Conditioning
3. Heating
4. Ventilation
5. Hot and Cold water

This unit is about following the correct procedures when making safe mechanical building services systems/components/equipment for disconnection from an electrical supply, using methods and practices compliant with the relevant regulations, codes of practice and industry approved standards.

They need to show an understanding of safe isolation procedures, risk assessment and methods of determining the presence or not of an electrical supply.

By the very nature of the hazardous working environment and working conditions it is important to remember that the activities undertaken by the operative shall;

1. be approved in accordance with accepted industrial practice and standards
2. not involve the installation and connection of electrical equipment and components
3. not involve testing and commissioning of the complete installation and its constituent parts
4. have the authority to take decisions about the work they undertake such as the selection of suitable and safe access equipment, tools and equipment needed to complete the work they undertake
5. work on their own and have the responsibility for identifying, communicating and co-operating with, as necessary, technical and non-technical persons when appropriate

Note: This national occupational standard (Ref ID M33) belongs to SummitSkills – the Sector Skills Council for the Building Services Engineering Sector.

(M33)EUSDSG3.50

Carry out safe electrical working practices on electrical control (and supply) for mechanical building services systems

Performance criteria

- You must be able to:*
- P1 follow agreed procedures to ensure the co-ordination of site services and the activities of other trades as relevant
 - P2 identify and carry out isolation procedures to ensure the safe installation of system and components in accordance with electrical regulations and approved procedures as and when required
 - P3 undertake relevant risk assessments and record the outcome in keeping with organisational procedures
 - P4 identify and confirm fit for purpose instruments and equipment for determining the presence or not of an electrical supply
 - P5 confirm the presence or not of an electrical supply in accordance with electrical regulations and approved procedures
 - P6 interpret relevant technical data and specifications as appropriate

(M33)EUSDSG3.50

Carry out safe electrical working practices on electrical control (and supply) for mechanical building services systems

Knowledge and understanding

You need to know and understand:

- K1 IEE Wiring Regulations; Electricity at Work Regulations; Building Regulations as relevant
- K2 procedures of safe isolation in accordance with current standards and regulations
- K3 the types, application, strengths and limitations of circuits and electrical supply for identified electrical control systems
- K4 the types, application, strengths and limitations of equipment and instruments used for determining the presence or not of an electrical supply
- K5 methods and techniques of confirming the presence or not of an electrical supply in accordance with industry regulations, procedures and practices
- K6 types and application of electrical drawings, diagrams and specifications
- K7 the purpose and significance of relevant documentation in accordance with industry practices and procedures
- K8 the purpose and significance of following organisational and industry procedures when interpreting and providing relevant technical and functional information

You need to know and understand:

Health and Safety

- K9 the correct procedures for a safe isolation with regard to an assessment of safe working practice, the correct identification of circuits to be isolated, the correct test and proving instruments selected, the use of correct testing methods, and correct selection of devices for securing isolation
- K10 the implications for relevant parties of carrying out an isolation
- K11 the importance of using personal protective equipment and safe appropriate tools for specific jobs
- K12 the hazards associated with using electrical equipment and plant including their lifting, handling and fixing

You need to know and understand:

Principles and theory

- K13 IEE wiring regulations as specified in the latest British Standard for Electrical Installations relevant to types and uses of wiring systems, wiring enclosures and equipment
- K14 where to find out about the principles of electrical theory which allow for the safe installation of electrical wiring systems, wiring enclosures and equipment

(M33)EUSDSG3.50

Carry out safe electrical working practices on electrical control (and supply) for mechanical building services systems

Developed by Energy and Utility Skills

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Date approved February 2010

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Validity Current

Status Imported

Originating organisation Summit Skills

Original URN DSG3.50

Relevant occupations Engineering; Science and Engineering Technicians

Suite Down Stream Gas

Key words safe, working practices, electrical, electricity, control, supply, mechanical, building services, systems