INSTALL SECURITY SYSTEMS

UNIT CODE: ENG/OS/PO/CR/05/5/A

UNIT DESCRIPTION

This unit covers the competencies required in installing of security systems. Competencies includes; Marking out of security systems zones, laying system cables, mounting accessories, terminate system cables and testing of the system.

ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT These describe the key outcomes which make up workplace function	**PERFORMANCE CRITERIA** These are assessable statements which specify the required level of performance for each of the elements ***(Bold and italicised terms are elaborated in the Range)***
1. Mark out security system zones	1.1 Type of the security system is identified as per design 1.2 Marking, piping and fixing tools are identified as per the nature of the job 1.3 Marking is performed as per the design drawing 1.4 Marking is performed in line with establishes procedures and standards 1.5 ***Marking points and zones*** are performed as per the design
2. Lay system cables	2.1 Cable types are identified 2.2 Cables are laid as per the IEE regulations 2.3 Cables laying system is as per the environmental condition 2.4 Firmness of the cables are installed as per the standard operating procedure 2.5 Cables are segregated as per the standard operating procedure
3. Mount accessories	3.1 Accessories are labelled as per their functions. 3.2 Accessories are wired as per the design 3.3 Control panel is mounted as per the standard operating procedure 3.4 Accessories are mounted as per the system design 3.5 Control panel is ***enclosed*** as per the OSHA
4. Terminate system cables	4.1 Cable lugging is performed as per the standards operating procedure. 4.2 Cables are terminated as per the IEE regulations 4.3 Cables are terminated in the connector as per the

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	design
5. Test security system	5.1 Type of ***tests*** are identified 5.2 Test is performed as per the IEE regulations 5.3 Firmness of the installation is established 5.4 Continuity test is performed 5.5 Insulation resistance test is performed as per the IEE regulations

RANGE

This provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and understanding and range.

Variable	Range
1. Mark out points and zones may include but is not limited to:	• Switch points • Socket points • Lighting points • Installation points • System control point
2. Enclosed may include but is not limited to:	• Metal case • Wooden case • Plastic case
3. Tests may include but is not limited to:	• Continuity • Insulation resistance • Short circuit • Firmness • Sound • Speed • Efficiency • Expected output
4. Regulatory parties may include but is not limited to:	• County Governments • ERC (Energy Regulatory Commission) • MSK (Music Copyright of Kenya) • NCA (National Construction Authority) • National Environment Management Authority (NEMA) • Communications Authority of Kenya (CAK) • Kenya Civil Aviation Authority (KCAA)

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit of competency.

Required skills

The individual needs to demonstrate the following skills:

- Communications (verbal and written);
- Proficient in ICT;
- Time management;
- Analytical
- Faults troubleshooting
- Problem solving;
- Planning;
- Decision making;
- First aid;
- Report writing;

Required knowledge

The individual needs to demonstrate the following knowledge:

- The manufacturer's warranty requirements relating to installation of security systems related components.
- The legal requirements relating to commissioning activities for electrical installation systems and components.
- Legislation and workplace procedures relevant to:
- Environment, health and safety;
- Appropriate PPE (Personal Protective Equipment)
- Observe County Government bylaws
- ERC (Energy Regulatory Commission) regulations
- NEMA
- CAK
- The importance of documenting security system installation information
- The importance of working to agreed timelines
- The relationship between time and costs
- How to prepare, interpret and use sources of technical information for scheduled security system installation activities
- The importance of using the correct sources of technical information.
- The purpose of and how to use identification codes (e.g. colour codes).
- How the system operates
- The operating specifications and tolerances for different types of installed systems
- The hazards associated with operating the system.

EVIDENCE GUIDE

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills and understanding and range.

1. Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1 Security system was wired as per the IEE regulations 1.2 Marking of the components position was performed before fixing 1.3 Cables were segregated in line with standard operating procedure 1.4 Accessories were labelled after the installation of the system 1.5 Cables were terminated in the connectors as per the design 1.6 Insulation, continuity, short circuit and firmness tests were performed. 1.7 Applied appropriate safety standards 1.8 Applied appropriate technical standards 1.9 Identified and used appropriate tools and equipment
2. Resource Implications	2.1 Testing equipment and tools 2.2 Electrical power 2.3 Stationery 2.4 Cameras
3. Methods of Assessment	Competency may be assessed through: 3.1 Oral questioning 3.2 Practical demonstration 3.3 Observation
4. Context of Assessment	4.1 Competency may be assessed individually in the actual workplace or through simulated work environment or during industrial attachment
5. Guidance information for assessment	5.1 Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.