

## Competency Standards for Caribbean Vocational Qualifications (CVQ)

**CCECE20207      CVQ Level II in Lighting Operations**

Unit Number	Unit Title	Mandatory/ Elective	Hours
ECECOR0011A	Follow health, safety and security procedures	Mandatory	20
ECECOR0041A	Work with others	Mandatory	10
ECECOR0121A	Communicate in the workplace	Mandatory	15
ECECOR0021A	Source and apply entertainment industry knowledge	Mandatory	20
ECECOR0031A	Manage own work and learning	Mandatory	10
ECECOR0051A	Work in a culturally diverse environment	Mandatory	5
ECECOR0141A	Use and adapt to changes in technology	Mandatory	20
ECECOR0081A	Share ideas in the workplace	Mandatory	10
ECECOR0061A	Provide quality service to customers	Mandatory	20
ECECOR0111A	Deal with conflict and resolve complaints	Mandatory	20
ECEGEN0331A	Draw and interpret sketches and simple drawings	Mandatory	20
ECECOR0101A	Perform measurements and calculations	Mandatory	20
ECEGEN0431A	Deal with emergency situations	Mandatory	20
ECEGEN0271A	Use and maintain measuring devices and equipment	Mandatory	10
LMFCOR0071A	Read and interpret work documents	Mandatory	10
ECCGEN0851A	Use and maintain hand and power tools	Mandatory	20
ECELIG1001A	Install and connect electrical wiring	Mandatory	20
ECELIG1011A	Install and terminate signal and data cables	Mandatory	15
ECELIG1032A	Operate simple floor electrics	Mandatory	15
ECELIG1042A	Operate follow spots	Mandatory	15
ECELIG1052A	Operate basic lighting equipment	Mandatory	20
ECELIG1062A	Repair and maintain basic lighting equipment	Mandatory	30
ECELIG1072A	Prepare, install and monitor basic lighting equipment	Mandatory	30
ECELIG1082A	Rig and position basic lighting equipment	Mandatory	10
ECELIG1092A	Disconnect, clean and store lighting equipment	Mandatory	15
ECELIG1102A	Test basic lighting equipment and circuits	Mandatory	20
ECELIG1112A	Prepare equipment to modify and control lighting	Mandatory	20
ECELIG1122A	Prepare battery-operated lighting equipment and systems	Mandatory	20
ECELIG1132A	Interpret lighting plan and specifications	Mandatory	10
ECELIG1152A	Prepare for lighting activities	Mandatory	15
ECELIG1162A	Apply a general knowledge of lighting to work activities	Mandatory	20
ECEGEN0302A	Prepare and present technical reports	Mandatory	10
ECELIG1172A	Operate simple lighting consoles	Mandatory	20
ECELIG1182A	Prepare and install simple special lighting effects	Mandatory	20
ECEGEN0011A	Handle physical elements safely during bump in/bump out	Elective	20
ECEGEN0021A	Move and set up instruments and equipment	Elective	10
ECEGEN0311A	Perform manual lifting and handling	Elective	10
ECEGEN0321A	Erect and dismantle scaffolding	Elective	20
ECELIG1191A	Perform basic repairs to electrical/electronic systems	Elective	30
ECELIG1201A	Repair electrical fixtures	Elective	15
ITICOR0011A	Carry out data entry and retrieval procedures	Elective	40

## CCECE20207 NVQ Level II in Lighting Operations (Cont'd)

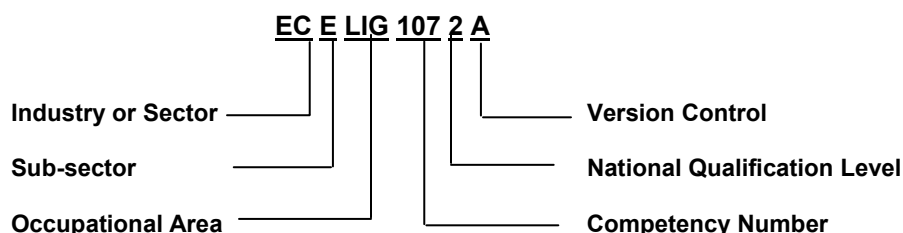
Unit Number	Unit Number	Mandatory/ Elective	Hours
ECEGEN0222A	Communicate using a two way system	Elective	10
ECEGEN0132A	Prepare and participate in an electronic media activity	Elective	30
ECELIG1212A	Determine and fulfil electrical power requirements	Elective	20
ECELIG1222A	Install basic electrical lighting and power circuit	Elective	30
ECELIG1232A	Diagnose and rectify faults in simple electrical components and circuits	Elective	20
ECELIG1242A	Install wiring for equipment and technical production elements	Elective	20
THHGHS0172A	Provide first aid	Elective	10
BSBSBM0012A	Craft personal entrepreneurial strategy	Elective	50
ECELIG1253A	Operate lighting using advanced techniques	Elective	30
ECELIG1263A	Provide dynamic lighting systems	Elective	30
ECELIG1273A	Programme and operate lighting consoles	Elective	30
ECELIG1283A	Install and operate generators	Elective	30
ECELIG1293A	Assess, set up and monitor power distribution systems	Elective	30
ECELIG1303A	Co-ordinate production operations	Elective	30

To achieve this qualification ALL Mandatory competencies plus a minimum of two (2) level one electives, two (2) level two electives and two (2) level three elective must be achieved.

Nominal Training Hours (Institutional Delivery) include total hours of Mandatory Competencies and Electives selected.

### Legend to Unit Code:

#### Example: ECELIG1072A



**KEY:** Man – Mandatory; ECC – Entertainment and Cultural Products (Cultural Products);  
 ECE - Entertainment and Cultural Products (Entertainment); LIG – Lighting Operations  
 ITI - Information Technology and Communication (Information Technology);  
 BSB – Business Services (Business); SBM – Small Business Management;  
 GEN – General; THH – Tourism and Hospitality (Hospitality); GHS – General Health  
 Service

## ECECOR0011A: Follow health, safety and security procedures

### Competency Descriptor:

This unit deals with the skills and knowledge required to work safely in the workplace and applies to all individuals operating in the Entertainment and Cultural Products Industry.

Competency Field: Entertainment and Culture

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Follow workplace health, safety and security procedures	1.1 Health, safety and security procedures are correctly followed and complied with in accordance with enterprise policies, relevant regulations and insurance requirements and safety plan.  1.2 Breaches of health, safety and security procedures are accurately identified and promptly reported.  1.3 All work activities are carried out in a manner that is safe and does not present a hazard to fellow workers and the public.  1.4 Safety symbols and signs are accurately interpreted and safety instructions are followed.
2. Deal with emergency situations	2.1 Potential hazards are promptly recognised and required action is determined and taken within scope of individual responsibility.  2.2 Emergency procedures are correctly followed in accordance with enterprise procedures and guidelines.  2.3 Assistance is promptly sought from colleagues and/or other authorities where appropriate.  2.4 Details of emergency situations are accurately reported in accordance with enterprise policies and guidelines.
3. Maintain personal safety standards	3.1 The appropriate safety clothing, footwear and personal protective equipment are used in accordance with organisation policies and guidelines.  3.2 Appropriate measures are taken to prevent personal injury or impairment resulting from work activities and to control work hazards in accordance with organisation and safety requirements.

- |   |   |     |   |
|---|---|-----|---|
| 4 | Provide feedback on health, safety and security | 3.3 | All manual lifting and handling are done in accordance with legal requirements, enterprise policies and relevant health and safety guidelines.                    |
|   |   | 3.4 | Movements of the body that may cause risk to self are prevented in accordance with safety principles and enterprise requirements.                                 |
|   |   | 3.5 | Appropriate strategies are used to maintain fitness and to counter possible injury from overexertion.   |
|   |   | 3.6 | Adequate rest breaks are planned to maintain work performance and to counter stress and anxiety that may be experienced in working schedule.                      |
|   |   | 3.7 | Contribution and assistance is made towards maintaining the workplace in a safe condition at all times in accordance with organisational and safety requirements. |
|   |   | 4.1 | Health, safety and security issues requiring attention are promptly identified.   |
|   |   | 4.2 | Health, safety and security issues are raised with the designated person in accordance with enterprise and legislative requirements.                              |

## RANGE STATEMENT

This unit applies to activities associated with the essential operations linked to following health, safety and security procedures.

Health, safety and security procedures may include:

- emergency, fire and accident
- hazard identification and control
- use of personal protective clothing and equipment
- safe sitting, lifting and handling
- security of documents, cash, equipment, people
- key control systems
- safe use of electrical equipment
- use of material safety data sheets
- safe use of chemicals and toxic substances
- safe construction of rigs and supports

Emergency situations may include:

- bomb threats
- accidents
- robbery
- fire
- armed hold-up
- floods
- earthquakes
- equipment collapse

Workplace may include:

- established corporations
- home-based operations
- outdoor sites
- cooperatives
- small enterprises
- one-man operations
- venues
- natural or built environment
- institutions

Work hazards may include:

- occupational overuse injury
- back injury
- hearing impairment
- stress
- performance anxiety
- electricity
- noise/sound level
- water and chemicals
- falls
- firearms/ammunition
- animals
- execution of special effects/stunts or action sequences
- adverse weather/lighting conditions
- diving and underwater work

Workplace procedures may relate to:

- safety
- process-specific procedures
- use of materials
- recycling
- cost control
- reporting

Areas of the body affected by common injuries may include:

- lower back
- ankle and foot
- knee
- muscles and tendons
- ligaments
- joints
- stress fractures

Personal protective equipment may include:

- safety glasses/goggles
- hair nets
- ear muffs/plugs
- gloves
- footwear
- protective clothing

Measures to prevent injury or impairment may include:

- following all safety procedures accurately
- adopting correct posture
- taking adequate rest breaks
- controlling noise/sound levels and length of exposure to high levels of noise
- using personal protective equipment, e.g. earmuffs
- avoiding eye strain
- correct use of chemical and dangerous substances/equipment
- stress management techniques

Potential hazards may include:

- slippery floors
- unprotected equipment
- unsecured electrical outlets and cables
- obstacles in walkways
- spilled chemicals
- noise and smoke

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to follow health, safety and security procedures in accordance with the performance criteria and the range listed within the range of variables statements.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- following established safety and security procedures and understanding of the implications of disregarding those procedures
- demonstration of knowledge of the industry guidelines and relevant legislative and insurance requirements
- demonstration of understanding of the legal requirement to work in accordance with health, safety and security procedures
- performing work activities in conformance with safety requirements and maintain personal safety
- maintaining safe work environment and report safety and security issues
- accurately interpreting safety symbols and signs
- demonstration of the ability to explain safety procedures to others and deal with emergency situations
- adherence to enterprise policies and procedures

### (2) Pre-requisite Relationship of Units

The pre-requisite for this unit is:

- Nil

**(3) Underpinning Knowledge and Skills**

<u>Knowledge</u>	<u>Skills</u>
<p>Knowledge of:</p> <ul style="list-style-type: none"> <li>• relevant industry safety guidelines</li> <li>• relevant Occupational Health and Safety legislation and codes of practice</li> <li>• major safety requirements for work environment</li> <li>• major causes of workplace accidents</li> <li>• workplace hazards</li> <li>• types and usage of personal protective gear and equipment</li> <li>• safety requirements relating to handling and usage of tools, equipment and materials</li> <li>• emergency evacuation procedures</li> <li>• fire hazards and workplace fire hazard minimisation procedures</li> <li>• organisational health, safety and security procedures</li> <li>• symbols used for Occupational Health and Safety signs</li> <li>• designated personnel responsible for Occupational Health and Safety</li> <li>• safety report and safety implementation reports</li> </ul>	<p>The ability to:</p> <ul style="list-style-type: none"> <li>• follow health, safety and security procedures</li> <li>• identify major causes of workplace accidents relevant to the work environment</li> <li>• identify and appropriately deal with safety and security risks in the work environment</li> <li>• deal with emergency situations</li> <li>• maintain safe work environment</li> <li>• communicate effectively</li> <li>• perform work activities safely</li> </ul>

**(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)
- relevant Occupational Health and Safety acts, regulations and codes of practice
- relevant industry safety guidelines
- enterprise's emergency and Occupational Health and Safety policies and procedures
- relevant protective equipment
- documents for reporting safety breaches and accidents

**(5) Method of Assessment**

Assessment methods must confirm consistency of performance over time and in a range of workplace relevant contexts.

Evidence may be collected in a variety of ways including:

- direct observation
- oral questioning
- written test
- evaluation of previous work
- testimonials from clients/colleagues
- evaluation of qualifications/portfolio/awards/resume/workplace documents
- authenticated assessments and/or assignments from relevant training courses
- supporting statement from supervisor or previous employer

Assessment should be conducted over time and will generally be in conjunction with assessment of other units of competency.

Simulated activities must closely reflect the workplace.

**(6) Context of Assessment**

Assessment may take place on the job, off the job or a combination of both of these. However, assessment of this unit would most effectively be undertaken on the job due to the specific workplace environment requirements. Off the job assessment must be undertaken in a closely simulated workplace environment.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>• Carries out established processes</li> <li>• Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Manages process</li> <li>• Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>• Establishes principles and procedures</li> <li>• Evaluates and reshapes process</li> <li>• Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.



**ECECOR0041A: Work with others**

Competency Descriptor:

This unit deals with the skills and knowledge needed to work harmoniously and effectively with team members, colleagues and others in a work environment.

Competency Field: Entertainment and culture

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Participate in the work/group process	<p>1.1 The relevant work requirements for the group/process are correctly identified.</p> <p>1.2 Own role and role of each individual in meeting work requirements are correctly identified and own role is performed to expectations.</p> <p>1.3 Appropriate assistance is provided to other team members involved in the work group/process as required and constructive contributions are made to meeting work requirements.</p> <p>1.4 Time and resource constraints are accounted for in planning for and fulfilling work requirements.</p> <p>1.5 Work place activities are conducted in compliance with the organization's work policies, procedures and conventions covering acceptable workplace conduct.</p> <p>1.6 Individual differences into are taken into account when performing work activities to achieving work requirements.</p> <p>1.7 Strengths of individuals are utilised to develop others in the group and the sharing of knowledge is incorporated in the group/process activities.</p>
2. Contribute to the flow of information and ideas	<p>2.1 Work outcomes are enhanced by sharing information and ideas relevant to the work activity with others.</p> <p>2.2 Information provided to others is relevant, timely and accurate.</p> <p>2.3 Information and ideas required to assist in the achievement of work requirements are sought from the appropriate persons when required.</p> <p>2.4 Information is recorded in the required detail and in the specified format.</p>

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|----|--|---|
|    | 2.5  | Relevant work information is systematically and accurately maintained and filed for easy retrieval.   |
|    | 2.6  | Differences in languages and cultural differences in communication styles are identified and their impact on the work process is accounted for. |
| 3. | Deal effectively with issues, problems and conflicts |   |
|    | 3.1  | Issues, problems and conflicts encountered in the work place are identified and assessed.   |
|    | 3.2  | Issues, problems and conflicts are discussed with team members and solutions are suggested or they are referred to the appropriate person.      |

## RANGE STATEMENT

This unit applies to activities associated with the essential operations linked to working with others.

Work requirements may include:

- goals
- objectives
- priorities
- specified targets or results
- time frames
- coordination with other work processes
- clear role definitions
- application of particular procedures
- organisation of work materials
- roster arrangements or particular approaches to work processes specified by the organisation or work group

Groups may include:

- established or ad hoc work units
- working parties
- task forces
- committees
- self directed teams

Working with others requires individual diversity to be taken into account including:

- cultural, racial and ethnic background
- physical requirements
- gender
- languages
- customs
- religious and traditional beliefs

Working with others may include:

- one-to-one communication in a group or team
- taking part in informal discussions
- following instructions
- consulting with the community
- taking part in meetings
- dealing with conflict

Techniques to resolve issues, problems or conflicts may include:

- problem solving
- negotiation
- conflict resolution
- use of a mediator or conciliator

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to work with others in accordance with the performance criteria and the range listed within the range of variables statements.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- participate in work process and contribute to achievement of goals and objectives
- demonstrate the ability to communicate effectively with others within the range of situations required for the job role
- provide ideas, lend assistance to others and resolve conflicts
- identify and fulfil own role in work process and utilise the strengths of others
- deal effectively with resource and time constraints and personal differences
- prepare for and conduct work operations in accordance with procedures
- demonstrate the ability to work effectively as part of a team
- demonstrate knowledge of effective communication techniques, including active listening, questioning and non-verbal communication

### (2) Pre-requisite Relationship of Units

The pre-requisite for this unit is:

- Nil

### (3) Underpinning Knowledge and Skills

#### Knowledge

Knowledge of:

- individual roles and responsibilities and relationships to others
- techniques for managing own work load such as:
  - meeting deadlines
  - acknowledging if tasks are beyond
  - current capacity
  - handling tasks or problems as far as possible then referring on to others as required
  - acceptable workplace conduct, including
    - regular attendance
    - punctuality
    - maintaining an orderly workspace,
    - appropriate standards of personal presentation and hygiene
    - self-confidence and self-respect
    - acceptance of constructive criticism and a willingness for self-improvement
    - good humoured approach to others and adaptability and flexibility
    - team work principles
    - effective communication techniques
    - conflict resolution techniques
    - Occupational Health and Safety principles

**Skills**

The ability to: (Cont'd)

- apply teamwork principles
- communicate effectively
- manage own work
- work harmoniously with others
- apply listening and questioning skills

**(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)
- enterprise policies and procedures

**(5) Method of Assessment**

Assessment methods must confirm consistency of performance over time and in a range of workplace relevant contexts.

Assessment should include direct observation of tasks and/or previous work and questioning on underpinning knowledge.

Evidence may be collected in a variety of ways including:

- direct observation
- oral questioning
- written test
- evaluation of level of interaction with others in previous work role
- testimonials from clients/colleagues
- evaluation of qualifications/portfolio/awards/resume/workplace documents
- authenticated assessments and/or assignments from relevant training courses
- supporting statement from supervisor or previous employer

Assessment should be conducted over time and will generally be in conjunction with assessment of other units of competency.

Simulated activities must closely reflect the workplace.

**(6) Context of Assessment**

Assessment may take place on the job, off the job or a combination of both of these. However, assessment of this unit would most effectively be undertaken on the job due to the specific workplace environment requirements. Off the job assessment must be undertaken in a closely simulated workplace environment.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
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Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**ECECOR0121A: Communicate in the workplace**

## Competency Descriptor:

This unit deals the skills and knowledge required to communicate in the workplace and applies to all individuals operating in the Entertainment and Cultural Products Industry.

Competency Field: Entertainment and Culture

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Gather, convey and receive instructions, information and ideas	1.1 Verbal/written instructions received and responded to with correct actions. 1.2 Information to achieve work responsibilities is collected from appropriate sources. 1.3 Input from internal and external sources is sought and used to develop and refine new ideas and approaches. 1.4 Instructions are accurately conveyed and work signage responded to with correct action. 1.5 The method(s)/equipment used to communicate ideas, instructions and information is appropriate to the audience. 1.6 Effective listening and speaking skills are used in oral communication. 1.7 Instructions or enquiries are responded to promptly and in accordance with enterprise requirements. 1.8 Questions are used to gain extra information and clarification.
2. Carry out face-to-face routine communication	2.1 Communications are conducted in an open, professional and friendly manner. 2.2 Appropriate language and tone is used and the effect of personal body language is considered. 2.3 Active listening and questioning are used to ensure effective two-way communication. 2.4 Cultural and social differences are identified and sensitivity to differences is displayed.

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|----|---|-----|---|
| 3. | Communicate and follow work instructions                                      | 3.1 | Routine instructions, messages and schedules are given or followed.   |
|    |   | 3.2 | Workplace procedures are accurately interpreted and carried out according to procedures laid down by the enterprise or supervisor.                                    |
|    |   | 3.3 | Communication is carried out clearly, concisely and effectively so instructions, messages and procedures are understood.  |
|    |   | 3.4 | Suggestions and information are provided relevant to the planning/conduct of work activities.   |
| 4. | Draft routine correspondence  | 4.1 | Written information and ideas are presented in clear and concise language and the information is presented in a manner that is easily understood by the recipient(s). |
|    |   | 4.2 | Correspondence is drafted and presented within designated timelines.  |
|    |   | 4.3 | Presentation of written information meets enterprise standards of style, format and accuracy.   |
| 5. | Gather information  | 5.1 | Correct sources of information are identified and confirmed.  |
|    |   | 5.2 | Relevant information is assessed and analysed from a range of sources.  |
|    |   | 5.3 | Information is selected and sequenced correctly.  |
| 6. | Participate in group discussion/meetings to achieve appropriate work outcomes | 6.1 | Participation in on-site meetings/discussions is done in accordance to predetermined procedures.  |
|    |   | 6.2 | Interaction is carried out to achieve constructive outcome.   |
|    |   | 6.3 | Responses are conveyed to others in the group.  |
|    |   | 6.4 | Constructive contributions are made in terms of the work process involved.  |
|    |   | 6.5 | Goals and aims are communicated clearly.  |

## RANGE STATEMENT

This unit applies to activities associated with the essential operations linked to communicating in the workplace.

Communication type may include:

- oral
- electronic
- written
- non-verbal
- formal
- informal
- direct
- indirect

Communication equipment may include but is not limited to:

- network systems
- telephones
- keyboard equipment including mouse, touchpad, keyboard
- pens, pencils
- information technology components including hardware, software and communication packages
- facsimile machines

Enterprise requirements may be included in:

- quality assurance and/or procedures manual
- goals, objectives, plans, systems and processes
- business and performance plans
- legal and organisation policy/guidelines and requirements
- access and equity principles and practice
- ethical standards
- Occupational Health and Safety policies, procedures and programs
- quality and continuous improvement processes and standards
- defined resource parameters

Correspondence may include but is not limited to:

- memorandums
- messages
- proformas
- emails
- standard/form letters

Information to achieve work responsibilities may include:

- work instructions
- diagrams
- work plans
- information on new developments
- standards
- health and safety requirements
- customer requirements

Oral communication may include but is not limited to:

- answering telephone calls
- requests from colleagues
- use of voice mail
- informal discussions
- answering enquiries from clients

Written information may include but is not limited to:

- handwritten and printed materials
- electronic mail
- internal memos
- briefing notes
- facsimiles
- general correspondence
- telephone messages

Signage may include but are not limited to:

- on-site direction signs
- common site warning signs
- facility or location signs
- traffic signs



Range of information sources may include:

- instructions: oral/memos
- signage
- work schedules/work bulletins
- diagrams
- books and magazines
- Internet

Standards may include:

- standards set by work group
- organisational policies and procedures
- specified work standards
- legislation
- Occupational Health and Safety standards

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to communicate in the workplace in accordance with the performance criteria and the range listed within the range of variables statement.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate knowledge of principles of effective communication in relation to listening, questioning and non-verbal communication and correct spelling, grammar and punctuation
- receive and convey information accurately and interact with other team members
- communicate information about work activities and processes and demonstrate literacy in relation to work requirements
- communication methods used are appropriate to the audience
- participate in group discussion/meetings to achieve appropriate work outcomes and provide ideas
- messages and written communication are clear, concise and correct
- information is accessed, gathered and promptly provided in a clear and concise format
- correspondence produced is relevant to request and in accordance with quality requirements

### (2) Pre-requisite Relationship of Units

The pre-requisite for this unit is:

- Nil

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- organisation's policies, plans and procedures
- standard turnaround times
- correct spelling, grammar and punctuation
- principles of effective communication in relation to listening, questioning and non-verbal communication
- relevant legislation from all government agencies that affect business operation, especially in regard to Occupational Health and Safety and environmental issues, equal opportunity, industrial relations and anti-discrimination
- types of communication
- usage of communication tools/equipment
- sources of information on work processes
- relevant signs and symbols commonly used in the workplace

Skills

The ability to:

- identify work requirements and understand and process basic, relevant workplace documentation
- request advice, receive feedback and work with a team
- organise work priorities and arrangements
- display problem solving skills to solve routine problems
- select and use technology appropriate to a task
- relate to people from a range of social, cultural and ethnic backgrounds and physical and mental abilities
- convey meaning clearly, concisely and coherently
- apply questioning and active listening techniques
- communicate non-verbally in a clear and precise manner
- demonstrate literacy skills in regard to basic workplace documents

**(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)
- access to relevant sources of information
- instructions, information, messages and signage
- appropriate communication tools/equipment
- enterprise policies and procedures
- relevant standards

**(5) Method of Assessment**

Assessment methods must confirm consistency of performance over time and in a range of workplace relevant contexts.

Assessment should include direct observation of tasks and/or previous work and questioning on underpinning knowledge.

**Method of Assessment (Cont'd)**

Evidence may be collected in a variety of ways including:

- direct observation
- oral questioning
- written test
- evaluation of previous work
- testimonials from clients/colleagues
- evaluation of qualifications/portfolio/awards/resume/workplace documents
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**(6) Context of Assessment**

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**CRITICAL EMPLOYABILITY SKILLS**

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Levels of Competency		
Level 1	Level 2	Level 3
<ul style="list-style-type: none"> <li>• Carries out established processes</li> <li>• Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Manages process</li> <li>• Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>• Establishes principles and procedures</li> <li>• Evaluates and reshapes process</li> <li>• Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

## ECECOR0021A: Source and apply entertainment industry knowledge

### Competency Descriptor:

This unit deals with the skills and knowledge required to source, apply and update a general knowledge of the live entertainment industry, including industry structure and operation, employment obligations and the impact of new technology.

Competency Field: Entertainment

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Source and apply information on the structure and operation of the entertainment industry	1.1 Sources of information are correctly identified and accessed on the entertainment industry structure, the different sectors of the industry and the products and services available. 1.2 Information relating to the major industry bodies are correctly identified and accessed. 1.3 Sources of information which outline the relationship between entertainment and other industries are accessed and the information is gathered. 1.4 The economic and social significance of the industry to the nation is researched using the relevant sources of information. 1.5 Knowledge of the entertainment industry is applied in daily activities to enhance the quality of work performance.
2. Source and apply knowledge of industry employment obligations and opportunities	2.1 Information on career opportunities is accessed to assist in self-development and effective work performance in the entertainment industry. 2.2 The roles, responsibilities and employment rights of contracted workers are understood and applied to day-to-day activities. 2.3 Formal and/or informal research is used to update general knowledge on the roles and responsibilities of unions, employer bodies and professional associations. 2.4 Sources of information on industrial relations issues are accessed and own knowledge of these issues are updated. 2.5 Knowledge of industry employment obligations and opportunities are appropriately applied within day-to-day work activities.

- |    |   |     |   |
|----|---|-----|---|
| 3. | Seek information on new technology              | 3.1 | Sources of information on new technology are correctly identified.  |
|    |   | 3.2 | Relevant information on the advances in technology and equipment and sources of technical advice and support is accessed and used to improve work performance.      |
|    |   | 3.3 | The likely effects of new technology on current work practices and the structure of the industry are assessed from information collected.                           |
|    |   | 3.4 | Ways of upgrading skills to allow for the use of new technologies are identified through formal and/or informal research.   |
|    |   | 3.5 | Information on technological advances is correctly applied in day-to-day work activities.   |
| 4. | Seek opportunities to update industry knowledge | 4.1 | A range of opportunities to update knowledge of the entertainment industry are identified and utilised and current issues of concern to the industry are monitored. |
|    |   | 4.2 | Updated knowledge is appropriately shared with customers and colleagues and is incorporated into day-to-day work activities.  |

## RANGE STATEMENT

This unit applies to activities associated with the essential operations linked to sourcing and applying entertainment industry knowledge.

The term entertainment industry covers all sectors involved in the production of entertainment and may include:

- drama
- ballet
- concerts
- festivals
- cultural events
- live theatre
- event
- film
- television
- radio
- music
- fashion
- sport
- visual arts, craft and design

Information sources and opportunities to update industry knowledge may include:

- industry associations and organisations
- unions and other sources of industrial relations information
- industry journals
- media
- Internet
- reference manuals
- policy and procedures manuals
- personal observations and experience
- discussions with industry practitioners and colleagues
- seminars and other professional development opportunities
- industry functions

Other industries with which the entertainment industry has relationship may include:

- tourism
- retail
- business services
- food and beverage
- hospitality

Issues of concern to the industry may include:

- government initiatives
- labour issues
- industry expansion
- changing nature of the marketplace

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to source and apply entertainment in accordance with the performance criteria and the range listed within the range of variables statements.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate general knowledge of the entertainment industry knowledge and application to a particular workplace context
- demonstrate understanding of how industry knowledge can be applied to work activities to maximise effective performance
- apply knowledge of how to maintain currency of knowledge
- sharing of knowledge with others and application of knowledge in work activities
- access and use information in accordance with legislative, ethical and moral requirements
- effectively maintain awareness of issues and new developments in the industry
- compliance with enterprise, industry and Occupational Health and Safety requirements

### (2) Pre-requisite Relationship of Units

The pre-requisite for this unit is:

- Nil

### (3) Underpinning Knowledge and Skills

#### Knowledge

Knowledge of:

- different sectors of the entertainment industry and their interrelationships
- key work areas within the industry, how they interrelate, and key roles and responsibilities
- key entertainment industry terminology
- issues of etiquette and ethics as they apply to key work areas within the industry

#### Skills

The ability to:

- communicate information effectively
- sort and summarise information
- conduct formal/informal research
- identify relevant information sources
- apply information to work activities
- maintain current industry knowledge

Knowledge

Knowledge of:(Cont'd)

- nature, role and functions of unions and employer associations, including rights and responsibilities of employers and employees
- obligations of employers, including safe system of work and non-discrimination
- obligations of employees, including attendance, ethical behaviour, taking directions, confidentiality, work performance, safety and care
- sources of information on the entertainment industry and ways of maintaining current industry knowledge
- current and emerging technologies used within the relevant entertainment industry sector

**(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)
- sources of information on the entertainment industry
- relevant tools and equipment to access and record information
- enterprise procedures, policies and guidelines
- industry and enterprise quality requirements
- legislative, moral and ethical codes
- industry regulations, standards and codes of practice

**(5) Method of Assessment**

Assessment methods must confirm consistency of performance over time and in a range of workplace relevant contexts.

Evidence may be collected in a variety of ways including:

- direct observation
- oral questioning
- written test
- evaluation of products made/work done previously
- testimonials from clients
- evaluation of qualifications/portfolio/awards/resume/workplace documents
- authenticated assessments and/or assignments from relevant training courses
- supporting statement from supervisor or previous employer

Assessment should be conducted over time and will generally be in conjunction with assessment of other units of competency.

Simulated activities must closely reflect the workplace.

**(6) Context of Assessment**

Assessment may take place on the job, off the job or a combination of both of these. However, assessment of this unit would most effectively be undertaken on the job due to the specific workplace environment requirements. Off the job assessment must be undertaken in a closely simulated workplace environment.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>
Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level -	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.



**ECECOR0031A: Manage own work and learning**

## Competency Descriptor:

This unit deals with skills and knowledge required for the self-management skills needed to perform effectively in the workplace and relates to personal time management and the identification and management of personal learning needs.

Competency Field: Entertainment and Culture

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Develop personal time management skills	1.1 Work priorities and deadlines are appropriately established in consultation with others in accordance with organisation procedures. 1.2 Time is managed and work is planned so that tasks are completed according to order of priority and within established deadlines. 1.3 Work is rescheduled and re-prioritised work where necessary to accommodate important variations in the workload. 1.4 Details of work tasks and commitments are accurately documented and work records are maintained according to enterprise requirements. 1.5 All changes and difficulties affecting work requirements are identified through regular reviews of work activities and the appropriate personnel are informed of the effects.
2. Manage own learning	2.1 Own learning needs to achieve set goals are identified in consultation with the appropriate personnel. 2.2 Opportunities to meet learning needs are identified and the appropriate course of action is taken in consultation with the appropriate personnel. 2.3 Appropriate opportunities for on and off-the-job training are pursued and evidence of learning and achievements relevant to the current work role are collected.
3. Receive and act constructively on personal feedback	3.1 Work progress is checked with appropriate persons and suggestions on ways to improve own work is elicited. 3.2 Feedback given on performance is assessed and applied appropriately to improve own work performance.

## RANGE STATEMENT

This unit applies to activities associated with the essential operations linked to managing own work and learning.

Work records may include:

- diary entries
- work schedules
- time sheets
- file notes
- reports
- general in-house correspondence, e.g. memos, notes, email
- records of meetings

Appropriate personnel may include:

- managers
- supervisors
- peers
- mentors
- community representatives

Time planning may include:

- consultation with others
- directions from others
- use of diaries and other work planning
- team meetings

Own learning needs may include:

- knowledge required for present job
- skills development to fulfil career aspirations
- need to obtain competencies to meet current and future organisational objectives

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to manage own work and learning in accordance with the performance criteria and the range listed within the range of variables statements.

### (1) Critical Aspects of Evidence

The following evidence is critical to the judgement of competence in this unit:

- demonstrate knowledge of time management, personal development and learning opportunities
- effective application of time management techniques
- plan and organise own work and identify constraints
- assessing learning needs and development opportunities
- communicating effectively with colleagues within the range of situations required for the job role
- receive and act constructively on feedback
- document evidence of learning and maintenance of work records

### (2) Pre-requisite Relationship of Units

The pre-requisite for this unit is:

- Nil

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- time management techniques
- organising information clearly, concisely and logically
- effective communication techniques
- task management techniques
- dealing with constraints
- general stress management techniques
- career paths within the relevant industry context
- skill requirements for different job roles
- documentation of evidence of learning
- enterprise policies and procedures

Skills

The ability to:

- set personal goals
- assess personal achievement
- plan own work
- communicate effectively and precisely
- perform documentation
- identify learning opportunities
- determine and work towards deadlines

**(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)
- information on learning opportunities

**(5) Method of Assessment**

Assessment methods must confirm consistency of performance over time and in a range of workplace relevant contexts.

Assessment should include direct observation of tasks and/or samples of work and questioning on underpinning knowledge.

Evidence may be collected in a variety of ways including:

- direct observation
- oral questioning
- written test
- evaluation of work plans//previous work/learning needs/training outcomes
- testimonials from clients/colleagues
- evaluation of qualifications/portfolio/awards/resume/workplace documents
- authenticated assessments and/or assignments from relevant training courses
- supporting statement from supervisor or previous employer

Assessment should be conducted over time and will generally be in conjunction with assessment of other units of competency.

Simulated activities must closely reflect the workplace.

**(6) Context of Assessment**

Assessment may take place on the job, off the job or a combination of both of these. However, assessment of this unit would most effectively be undertaken on the job due to the specific workplace environment requirements. Off the job assessment must be undertaken in a closely simulated workplace environment.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

## **ECECOR0051A: Work in a culturally diverse environment**

Competency Descriptor:

This unit deals with the skills and knowledge to work successfully in an environment with people from diverse social and cultural backgrounds.

Competency Field: Entertainment

<b>ELEMENT OF COMPETENCY</b>	<b>PERFORMANCE CRITERIA</b>
1. Communicate with individuals from diverse backgrounds	1.1 Individuals and groups from different backgrounds, cultures and languages are treated with respect and sensitivity.
	1.2 Effective communication and cooperation is established with individuals from different backgrounds in workplace activities.
	1.3 An effort is made to communicate using gestures, simple words and other appropriate methods where language barriers exist.
	1.4 Different traditions and ways of communicating is taken into account in responding to workplace situations.
	1.5 The ability of team members to speak a language other than English and/or their experience of living in other regions or cultures is valued and recognised as an asset.
2. Deal with cross cultural misunderstandings	2.1 Issues, which may cause conflict or misunderstanding in the workplace, are identified.
	2.2 Difficulties are addressed with the appropriate people and assistance is sought from team leaders or others where required.
	2.3 Possible cultural differences are considered when difficulties or misunderstandings occur.
	2.4 Every effort is made to resolve misunderstandings, taking account of cultural considerations.
	2.5 Issues and problems are referred to the appropriate team leader/supervisor for follow-up.

## RANGE STATEMENT

This unit applies to activities associated with the essential operations linked to working in a culturally diverse environment.

Possible cultural differences may include those relating to:

- appropriate ways of greeting and parting
- levels of formality
- work ethics
- family obligations
- customs
- social values
- dress and grooming
- non-verbal behavior, understandings and interpretations
- observance of special religious, feast or other celebratory days
- product preferences

Differences of background and culture may relate to:

- race/ethnic origin
- language
- special needs
- family structure
- gender
- age
- sexual preference

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to work in a culturally diverse environment in accordance with the performance criteria and the range listed within the range of variables statements.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- ability to identify and respond to the cultural context of a given workplace
- the ability to apply knowledge of different cultures and cultural characteristics appropriately in communication with individuals from a range of backgrounds
- identify and resolve misunderstandings appropriately

### (2) Pre-requisite Relationship of Units

The pre-requisite for this unit is:

- Nil

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- principles that underpin cultural awareness and relevance to individual behaviour in the workplace
- general characteristics of the different cultural groups in the society
- cultures of immigrants and relevant cultural protocols
- principles and techniques for resolution of cross-cultural communication difficulties
- principles of equal employment opportunity and anti-discrimination legislation as they apply to individual employees

Skills

The ability to:

- communicate with people from a range of social and cultural background
- demonstrate sensitivity to cultural differences
- identify and deal with issues in the workplace that may cause conflict/misunderstanding
- use appropriate gestures and phrases to overcome language difficulties

**(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)

**(5) Method of Assessment**

Assessment methods must confirm consistency of performance over time and in a range of workplace relevant contexts.

Evidence may be collected in a variety of ways including:

- direct observation
- oral questioning
- written test
- evaluation of work done previously
- testimonials from clients
- evaluation of qualifications/portfolio/awards/resume/workplace documents
- authenticated assessments and/or assignments from relevant training courses
- supporting statement from supervisor or previous employer

Assessment should be conducted over time and will generally be in conjunction with assessment of other units of competency.

Simulated activities must closely reflect the workplace.

**(6) Context of Assessment**

Assessment may take place on the job, off the job or a combination of both of these. However, assessment of this unit would most effectively be undertaken on the job due to the specific workplace environment requirements. Off the job assessment must be undertaken in a closely simulated workplace environment.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level -	
Solve problems	Level 1	
Use technology	Level -	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.



## ECECOR0141A: Use and adapt to changes in technology

Competency Descriptor:

This unit deals with the skills and knowledge required to evaluate and adapt to a variety of technological changes within the entertainment and culture industry.

Competency Field: Entertainment

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Evaluate information about new technology	1.1 Where necessary, information is sought about the current technological changes that apply to the relevant industry.  1.2 The information is evaluated according to the impact it will have on effective work performance within the industry, including information about changes in any type of equipment or technology used within the industry, likely effects of new technology on current work practices and ways of upgrading skills to include the use of new technology.
2. Adapt to changes in the new technology	2.1 Appropriate training on new technology is undertaken to improve work practices when required.  2.2 Any relevant documentation that will assist in the practice of use of the new technology is read.  2.3 Appropriate equipment that is suitable for the specific uses defined by the new technology is selected when required.  2.4 The new technology is implemented in current work practices.
3. Update knowledge of new technology	3.1 Informal and/or formal research is continually applied to update knowledge of any subsequent new technologies that may impact on work practices.  3.2 Current changes in technology are monitored and those changes are implemented when required.  3.3 Updated knowledge is shared with colleagues and the relevant information is incorporated into day-to-day work activities.

## RANGE STATEMENT

This unit applies to activities associated with the essential operations linked to using and adapting to changes in technology.

Information about the new technology may be obtained from the following sources:

- electronic media
- reference books
- libraries
- industry associations and organisations
- industry journals
- publications - newsletters, magazines, bulletins and letters
- computer data, including internet
- induction kits
- organisational policies, procedures and journals
- occupational health and safety laws, regulations, journals
- personal observations and experience
- discussions with current industry practitioners
- discussions with manufacturers technical and sales personnel
- specialist technical publications
- manufacturers' handbooks, manuals promotional material

Industries incorporating new technology may include:

- music
- film
- television
- radio
- interactive multimedia
- entertainment
- arts

New technology may include:

- replacement of analogue systems with digital systems
- video editing software
- music production software and equipment
- sound editing software
- camera equipment
- sound equipment
- projection equipment
- computer technology

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to use and adapt to changes in technology in accordance with the performance criteria and the range listed within the range of variables statements.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstration of knowledge of new technology
- access and gather information on new technology
- develop strategies to keep abreast of changes and gaining relevant training
- incorporation of appropriate new technology into current work practices to achieve most effective outcomes

**(2) Pre-requisite Relationship of Units**

The pre-requisite for this unit is:

- Nil

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- relevant information sources on technology
- questioning techniques to obtain information
- information gathering methodologies
- relevant technologies
- impact of technology on relevant industry
- features and capabilities of equipment specified by technology

Skills

The ability to:

- sort and summarise information
- undertake training in new technology and incorporate the use of new technology into current work practices
- access information about new technology
- communicate information accurately
- monitor changes in technology

**(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)
- relevant information sources

**(5) Method of Assessment**

Assessment methods must confirm consistency of performance over time and in a range of workplace relevant contexts.

Evidence may be collected in a variety of ways including:

- direct observation
- oral questioning
- written test
- evaluation of products made/previous work
- testimonials from clients
- evaluation of qualifications/portfolio/awards/resume/workplace documents
- authenticated assessments and/or assignments from relevant training courses
- supporting statement from supervisor or previous employer

Assessment should be conducted over time and will generally be in conjunction with assessment of other units of competency.

Simulated activities must closely reflect the workplace.

**(6) Context of Assessment**

Assessment may take place on the job, off the job or a combination of both of these. However, assessment of this unit would most effectively be undertaken on the job due to the specific workplace environment requirements. Off the job assessment must be undertaken in a closely simulated workplace environment.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
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Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**ECECOR0081A: Share ideas in the workplace**

Competency Descriptor:

This unit deals with the skills and knowledge required to share idea/s with others in the workplace in a range of contexts within the Entertainment and Cultural Products Industry.

Competency Field: Entertainment and Culture

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Clarify idea/s for communication	1.1 Advantages and disadvantages of idea/s are identified. 1.2 Information relevant to the idea/s is gathered with consideration of intellectual property, moral rights and copyright requirements. 1.3 Effects of the idea/s are identified. 1.4 Other possible options are considered based on idea/s.
2. Prepare to communicate idea	2.1 Relevant people to share idea/s with are identified. 2.2 Suitable communication method is selected based on audience. 2.3 Suitable time and place for communication is established in accordance with enterprise policies and procedures. 2.4 Responses to idea/s are anticipated and support for idea/s is developed.
3. Share idea/s	3.1 Idea/s is/are presented in appropriate manner and clearly explained. 3.2 Feedback is sought, discussed and accepted. 3.3 Idea/s is/are modified accordingly.

## RANGE STATEMENT

This unit applies to activities associated with the essential operations linked to sharing ideas in the workplace.

The effects will include:

- the people who may be involved
- the resources required
- processes needed to develop and implement the idea/s
- the impact on the workplace

Other options include:

- giving considering other ideas
- being open to make changes to the original idea

Communication methods refer to:

- how and when you will present ideas
- face to face
- team meeting
- informal discussion or one on one with a specific person
- written
- email or telephone

Relevant people may include:

- peers
- supervisor
- area leader
- manager

Seeking, discussing and accepting feedback involve:

- actively listening
- asking questions
- clarifying understanding and evaluating
- accepting and rejecting the opinions and ideas of others' as appropriate

Anticipation of responses may involve:

- visualising the meeting or discussion
- thinking through both positive and negative aspects of the idea
- identifying the questions and viewpoints of others

Modifying ideas may involve:

- making improvements
- developing your idea/s based on the feedback received

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to share ideas in the workplace in accordance with the performance criteria and the range listed within the range of variables statement.

**(1) Critical Aspects of Evidence**

It is essential that competence be observed in the following aspects:

- ideas are analyzed and appropriate information is gathered
- ideas are communicated to the relevant parties using most effective methods
- plan and organise occasion to communicate idea/s
- demonstrate the ability to clearly and confidently define an idea/s and express it effectively to others within a work context
- actively listen for both positive and negative feedback and modify idea/s accordingly
- responses to ideas are evaluated and employed to modify ideas
- perform all activities in accordance with enterprise policies and procedures
- compliance with all legislative requirements

**(2) Pre-requisite Relationship of Units**

The pre-requisite for this unit is:

- Nil

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- appropriate communication methods
- enterprise structure
- positions and roles of individuals in the enterprise
- sources of information relevant to ideas
- methods of access and gather information
- define and develop ideas
- presentation techniques
- feedback mechanism
- basic evaluation and review procedures
- enterprise policies and procedures
- intellectual property, moral rights and copyright requirements

Skills

The ability to:

- accept positive and negative feedback
- observe details of people, objects and events
- apply presentation skills
- experiment with ideas and modify them
- recognise limitations and ask for help where needed
- listen to ideas and opinions of others with an open mind
- ask questions and seek clarification
- follow organisational guidelines or work under supervision

**(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)
- access to sources of information
- enterprise policies and procedures
- legislative requirements

**(5) Method of Assessment**

Assessment methods must confirm consistency of performance over time and in a range of workplace relevant contexts.

Assessment should include direct observation of tasks and/or previous work and questioning on underpinning knowledge.

Evidence may be collected in a variety of ways including:

- direct observation
- oral questioning
- written test
- evaluation of previous work/ideas shared
- testimonials from clients/colleagues
- evaluation of qualifications/portfolio/awards/resume/workplace documents
- authenticated assessments and/or assignments from relevant training courses
- supporting statement from supervisor or previous employer

Assessment should be conducted over time and will generally be in conjunction with assessment of other units of competency.

Simulated activities must closely reflect the workplace.

**(6) Context of Assessment**

Assessment may take place on the job, off the job or a combination of both of these. However, assessment of this unit would most effectively be undertaken on the job due to the specific workplace environment requirements. Off the job assessment must be undertaken in a closely simulated workplace environment.



## CRITICAL EMPLOYABILITY SKILLS

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Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
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Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

## **ECECOR0061A: Provide quality service to customers**

Competency Descriptor:

This unit deals with the skills and knowledge required to identify and satisfy customer needs and expectations in a positive and professional manner.

Competency Field: Entertainment and culture

<b>ELEMENT OF COMPETENCY</b>		<b>PERFORMANCE CRITERIA</b>	
1.	Identify customer needs	1.1	Appropriate interpersonal skills are employed to ensure that customers' needs are accurately identified.
		1.2	Customer requests are discussed in an articulate, easy to understand manner and all requests are responded to promptly and accurately within policy and procedures.
		1.3	Customers' needs are assessed for urgency so that priorities for service delivery can be identified.
		1.4	Customers are provided with information about available options for meeting their needs and assisted to identify their preferred option.
		1.5	Enterprise products and services are promoted to meet the customer request within policy and procedures.
		1.6	Relevant documentation are completed in accordance with enterprise policies and procedures.
		1.7	Personal limitations in addressing customer needs are identified and where appropriate, assistance is sought from designated person.
2.	Communicate with the customer	2.1	Communication is conducted with customers and colleagues in a polite, professional and friendly manner.
		2.2	Language and tone appropriate to a given situation are used in both written and spoken communication.
		2.3	Appropriate non-verbal communication is used in all situations.
		2.4	Non-verbal communication of colleagues and customers are observed and taken into consideration in the communication process.

- 2.5 Sensitivity is shown to cultural and social differences when communicating with others.
  - 2.6 Active listening and questioning are used to facilitate effective two-way communication.
  - 2.7 Identify potential and existing conflicts and seek solutions in conjunction with parties involved.
- 3. Establish a relationship with the customer
  - 3.1 Confirm customer identity and details with customer records if appropriate.
  - 3.2 Establish a rapport using active listening and empathy techniques.
- 4. Maintain personal presentation standards
  - 4.1 Appropriate dress, grooming and behaviour are observed in the workplace.
  - 4.2 Personal presentation takes account of workplace environment and impact on different kinds of customer.
- 5. Deliver quality service to customers
  - 5.1 Prompt customer service is provided to meet identified needs in accordance with legislative and organisational requirements.
  - 5.2 Appropriate rapport is established with customers to enable high-quality service delivery.
  - 5.3 All reasonable needs and requests of customers are met within organizational guidelines and timeframes.
  - 5.4 Service is provided to customers respectfully and with sensitivity where cultural differences and special needs exist.
  - 5.5 Customers' complaints are handled sensitively and courteously in accordance with organisational requirements.
  - 5.6 Opportunities to enhance the quality of service and products are identified and taken whenever possible.

## RANGE STATEMENT

This unit applies to activities associated with the essential operations linked to providing quality service to customers

Customers include but not limited to:

- user
- purchaser or beneficiary of a service, product or process
- internal or external clients
- colleagues
- visitors

Interpersonal skills may include:

- using appropriate body language
- summarizing and paraphrasing to check understanding of customer's message
- providing an opportunity for the customer to confirm his/her request
- seeking feedback from the customer to confirm understanding of needs
- questioning to clarify and confirm the customer's needs
- listening actively to what the customer is communicating

Personal presentation may include:

- personal appearance
- correct posture
- use appropriate language and tone
- demeanour
- personality

Delivery quality service may include:

- building rapport
- keeping promises
- keeping the customer informed
- doing it right the first time
- owning the customer's request
- responding to the customer's request with operational efficiency

Active listening involves but not limited to:

- giving your full attention to the persons who are speaking
- responding in a way that lets them know you have listened
- understood their message as they have intended

Customer needs may relate to:

- advice or general information
- specific information
- further information
- making an appointment
- complaints
- purchasing the enterprise's products and services
- returning organisation's products

Grooming to include:

- the use of hygiene aids
- properly laundered garments
- clean shoes
- the range of fashions and hairstyles accepted as appropriate for the workplace

Workplace procedures may relate to:

- safety
- process-specific procedures
- use of materials
- recycling
- cost control
- reporting

Legislative requirements may include:

- confidentiality and privacy
- anti-discrimination
- licensing requirements
- fair trade
- adherence to mandatory service and process standards
- Occupational Health and Safety requirements
- environmental regulations

Behaviour which contributes to a safe work environment may include:

- discussing and negotiating problems and tasks with other team members
- sharing knowledge and skills
- identifying and reporting any risks or hazards
- using business equipment according to instructions

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to provide quality customer service in accordance with the performance criteria and the range listed within the range of variables statement.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate knowledge of enterprise products and service
- demonstrate knowledge of and adherence to enterprise standards, policies and procedures
- use of appropriate language, tone and phrases in dealing with customers and giving due consideration for special needs and cultural and social differences
- demonstrate clear and concise communication with the customer including use of active listening and questioning techniques
- referral of inquiry in a prompt and efficient manner
- provide various options to the customer when more than one option can satisfy customer need
- deliver service in accordance with enterprise policy and procedures
- projection of a professional image in representing the enterprise

### (2) Pre-requisite Relationship of Units

The pre-requisite for this unit is:

- Nil

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- the enterprise's business structure, products and services
- strategies for excellent customer service
- the organisation's policies and procedures for customer service including handling customer complaints
- customer feedback mechanisms and their special needs teamwork
- enterprise policies, procedures and guidelines
- enterprise culture and values
- enterprise business goals and standards
- business operations and processes
- legislative requirements

Skills

The ability to:

- access and use workplace information
- utilise skills to identify customer needs
- deal with customer enquiries or complaints (problem solving skills)
- relate to people from a range of social, cultural and ethnic backgrounds and physical and mental abilities
- articulate enterprise products and services
- employ questioning and active listening skills to clarify information
- apply customer service skills to satisfy customer requirements and satisfaction
- apply customer service skills to satisfy customer satisfaction
- read and interpret information

**(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)
- information on enterprise products and services
- enterprise policies and procedures
- relevant legislations

**(5) Method of Assessment**

Assessment methods must confirm consistency of performance over time and in a range of workplace relevant contexts.

Assessment should include direct observation of tasks and/or previous service provided and questioning on underpinning knowledge.

Evidence may be collected in a variety of ways including:

- direct observation
- oral questioning
- written test
- evaluation of previous service provided/previous work
- testimonials from clients/colleagues
- evaluation of qualifications/portfolio/awards/resume/workplace documents
- authenticated assessments and/or assignments from relevant training courses
- supporting statement from supervisor or previous employer

**Method of Assessment (Cont'd.)**

Assessment should be conducted over time and will generally be in conjunction with assessment of other units of competency.

Simulated activities must closely reflect the workplace.

**(6) Context of Assessment**

Assessment may take place on the job, off the job or a combination of both of these. However, assessment of this unit would most effectively be undertaken on the job due to the specific workplace environment requirements. Off the job assessment must be undertaken in a closely simulated workplace environment.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

## **ECECOR0111A: Deal with conflict and resolve complaints**

### Competency Descriptor:

This unit describes the skills and knowledge required to handle difficult interpersonal situations with both customers and colleagues when conflict arises. It also describes the resolution of escalated complaints. These day-to-day conflict resolution skills are required by a wide variety of people working at all levels across a range of cultural industry workplaces.

Competency Field: Entertainment

<b>ELEMENT OF COMPETENCY</b>		<b>PERFORMANCE CRITERIA</b>	
1.	Identify conflict situations	1.1	Identify potential for conflict quickly and take swift and tactful action to prevent escalation.
		1.2	Identify quickly situations where personal safety of customers or colleagues may be threatened, and organise appropriate assistance.
2.	Resolve conflict situations	2.1	Take responsibility for finding a solution to the conflict within the scope of individual responsibility.
		2.2	Encourage all points of view, accept them and treat them with respect.
		2.3	Use effective communication skills to assist in the management of the conflict.
		2.4	Use accepted conflict resolution techniques to manage the conflict situation and develop solutions.
3.	Resolve escalated complaints	3.1	Take responsibility for resolving the complaint.
		3.2	Handle escalated complaints sensitively, courteously and discreetly.
		3.3	Convey an empathetic and helpful attitude using active listening and questioning.
		3.4	Query the customer for any information regarding possible causes related to the complaint.
		3.5	Establish and agree on the nature and details of the complaint with the customer.



- 3.6 Assess the impact of the complaint on the customer in order to provide an appropriate response and solution.
- 3.7 Determine possible options to resolve the complaint and quickly analyse and determine the best solution, taking into account organizational constraints.
- 3.8 Take appropriate action to resolve the complaint, and, wherever possible, to the customer's satisfaction.
- 3.9 Where appropriate, use techniques.
- 3.10 Complete any necessary documentation accurately and within time constraints.
- 3.11 Provide feedback on complaints to appropriate personnel in order to avoid future occurrence.

## RANGE STATEMENT

The following explanations identify how this unit may be applied in different workplaces, sectors and circumstances.

Conflict and escalated complaint situations may relate to:

- customer complaints
- conflicts among work colleagues
- refused entry
- drug or alcohol affected persons
- ejection from premises
- late customers
- denied requests for refunds or exchanges
- dissatisfaction with seats allocated

Organisational constraints may include:

- budgetary constraints
- strict refund/exchange policy
- no availability of replacement goods, services or tickets

## EVIDENCE GUIDE

### (1) Critical Aspects of Evidence

The following evidence is critical to the judgement of competence in this unit:

- knowledge of conflict resolution techniques
- ability to apply conflict resolution techniques and resolve a range of different conflict situations in contexts appropriate to the job role and workplace

**(2) Pre-requisite Relationship of Units**

The pre-requisite for this unit is:

- Nil

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- types of conflict in the workplace and typical causes
- conflict theory, including signs, stages, levels, factors involved, results
- group processes and roles people play
- conflict resolution skills and strategies incorporating communication skills of:
  - assertiveness
  - listening
  - non-verbal communication
  - language style
  - problem solving
  - negotiation
- procedures for handling customer complaints in a given industry or workplace context

Skills

The ability to:

- communicating constructively to achieve planned outcomes
- working creatively with individual differences
- working constructively with group dynamics
- identify and deal constructively with conflict

**(4) Resource Implications**

Assessment of this unit requires access to:

- typical organisational complaint and conflict policies and procedures

**(5) Method of Assessment**

Assessment methods must confirm consistency of performance over time and in a range of workplace relevant contexts.

Evidence may be collected in a variety of ways including:

- direct observation
- oral questioning
- written test
- evaluation of work done previously
- testimonials from clients
- evaluation of qualifications/portfolio/awards/resume/workplace documents
- authenticated assessments and/or assignments from relevant training courses
- supporting statement from supervisor or previous employer

Assessment should be conducted over time and will generally be in conjunction with assessment of other units of competency.

Simulated activities must closely reflect the workplace.

**(6) Context of Assessment**

The assessment context must provide for:

Activities that allow the candidate to address a range of commonly occurring conflict situations that may be found in the workplace. These should be related to the usual work roles of the candidate, such as handling escalated customer complaints in a front-of-house environment, resolving disputes with colleagues over work aspects, dealing with contractors or suppliers who fail to meet obligations.

Interaction with others to demonstrate appropriate interpersonal skills for resolving conflicts.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level -	
Solve problems	Level 1	
Use technology	Level -	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**ECEGEN0331A: Draw and interpret sketches and simple drawings**

Competency Descriptor:

This unit deals with the skills and knowledge required to effectively draw and interpret simple drawings and sketches of layouts and concepts.

Competency Field:

Entertainment and Culture

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Prepare to use a range of drawing techniques	1.1 Purpose, scope and presentation context of drawing requirements are identified. 1.2 Suitable techniques to produce drawing or represent the concept are identified. 1.3 Tools, equipment, drawing instrument, supplies and materials required for the identified techniques are selected. 1.4 Presentation context for the drawings are taken into account in selecting techniques, tools and materials. 1.5 Occupational Health and Safety (OHS) procedures for a given work are identified, obtained and understood through established routines and procedures.
2. Draw geometric constructions	2.1 The completed drawing illustrates a series of geometric shapes and activities. 2.2 The finished drawing is neat and clear of smudges. 2.3 Alphabet of lines is identified and applied with all lines distinct, easily read and of the appropriate line weight and type. 2.4 Measurements are performed using appropriate scales. 2.5 Lettering is constructed distinctly and is easily read.
3. Construct multi-view (orthographic 2-D) drawing	3.1 The drawing illustrates three views of specified object with correct line representation. 3.2 The finished multi-view drawing is constructed correctly.
4. Develop a pictorial (3D) drawing	4.1 The drawing has a correct view orientation (isometric). 4.2 The complete pictorial (3D) drawing is correctly developed with hidden features.

5.	Construct and dimension drawings	5.1	All major features on the drawing are appropriately dimensioned to correct specification.
		5.2	All necessary details and information are shown.
6.	Apply notes and leaders	6.1	The finished drawing is neatly and appropriately labelled.
		6.2	Completed drawing illustrates correct application of notes and leaders.
7.	Prepare freehand sketch	7.1	Sketch correctly drawn with appropriate views where applicable.
		7.2	Necessary dimensions are shown and instructions and/or information conveyed by appropriate use of notes.
8.	Interpret details from sketches and drawings	8.1	Components, assemblies or objects correctly identified.
		8.2	Commonly used symbols and abbreviations are recognised.
		8.3	Dimensions and instructions are identified and followed as required.
		8.4	Material requirements are correctly identified as required.

## RANGE STATEMENTS

This relates to the unit as a whole providing the range of contexts and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

The concept may relate to an object or idea and may include:

- sculptures
- installations
- paintings or prints
- crafted objects
- design concepts
- story, narrative
- performance
- digital work
- technical solutions for a design or work
- movement sequence

Techniques may include:

- linear marks of differing intensity and character
- tonal range to produce illusion of form in space
- linear marks to produce illusion of form in space
- linear perspective
- scaling techniques
- use of positive/negative space
- digital drawing techniques
- integration of text and drawing

## Drawing instruments and supplies:

- drafting kit
- CAD workstation
- drafting paper
- drawings/modules/photographs

## Materials may include:

- a range of graphite pencils
- colour pencils
- pastels and chalks
- charcoal
- natural ochre's
- pigments
- inks
- watercolour
- crayons
- solvents
- a range of papers
- boards
- bark/wood

## Alphabet of line may include:

- object line
- hidden line
- centre line
- section line
- dimension
- extension line
- cutting line
- short break line
- phantom line

## Dimension drawings:

- dimensioning styles and methods: co-ordinate, linear/datum
- dimensioning 2-D drawing
- dimensioning complex shapes: spheres, cylinders, tapers, pyramids

## Pictorial (3-D) drawing to include:

- isometric corner with left and right side lines each 30 degrees up from horizontal and third line at a vertical, with all three lines joining in a common intersection
- full scale (1:1) basic isometric drawing

## The presentation context may include:

- proposals in response to a brief
- design proposal
- proposal for product or work development
- visualization of a concept

## Equipment may include:

- brushes
- sticks
- sponges
- rags
- blades
- measuring tools
- digital technology
- drawing and design applications
- digital camera
- computer
- printer
- scanner

## Geometric construction to include:

- circles
- regular polygons with four, six and eight sides
- pentagon inscribed within measured circle
- ellipse
- triangles with specified angles
- arcs thru three points; tangent to two circles

## Multi-view (orthographic 2-D) drawings:

- full scale (1:1) orthographic 3-view drawing using third angle projection with top, front and right side view – show all hidden features and centrelines

## Types of scale:

- architectural
- metric
- engineering
- civil

Measurement systems:

- imperial system
- metric(SI) system

## EVIDENCE GUIDE

This provides essential advice for assessment of the unit and must be read in conjunction with the performance Criteria and the Range Statement of the unit.

### (1) Critical Aspects and Evidence

It is essential that competence is observed in the following aspects:

- demonstrate knowledge of design and drawing principles and their application
- identify and understand various types of drawings
- identify alphabet of lines, scales, lettering, dimensions, symbols, abbreviations and key features
- identify title panel and reference date of drawings
- production of a series of drawings and sketches which demonstrate a command of the selected techniques and which successfully communicate the concept
- interpret drawings and sketches accurately
- compliance with OHS requirements and industry standards

### (2) Pre-requisite Relationship of Units

The pre-requisite for this unit is:

- Nil

### (3) Underpinning Knowledge and Skills

#### Knowledge

Knowledge of:

- the physical properties and capabilities of a range of commonly used drawing tools and materials
- different approaches to drawing and how other practitioners use drawing to represent the concept
- awareness of copyright, moral rights and intellectual property issues and legislation in relation to drawing
- overview knowledge of the elements and principles of design

#### Skills

The ability to:

- make simple freehand sketches
- prepare technical drawings with drawing instruments and with Auto CAD
- read and interpret sketches and working drawings
- measure accurately
- communicate effectively
- work safely



**Knowledge**

Knowledge of: (Cont'd)

- types and use of drawing instruments and supplies
- identification of alphabet of lines, line type variation, order of usage and application on drawings
- types of scale and proportion and how they are used for measurement
- symbols, dimensions and terminology
- types of drawings and their applications

**(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)
- drawing instruments/CAD
- drawing supplies
- objects for drawing
- enterprise policies and procedures
- legislative, statutory and Occupational Health and Safety requirements
- Industry standards and codes of practice

**(5) Method of Assessment**

Assessment may incorporate a range of methods to assess performance and the application of essential underpinning knowledge, and might include:

- direct observation of the production of drawings
- evaluation of drawings
- questioning and discussion about candidate's intentions and the work outcome
- verbal or written reports
- review of portfolios of evidence
- third party workplace reports of performances by the candidate

Assessment should be conducted over time and will generally be in conjunction with assessment of other units of competency.

Simulated activities must closely reflect the workplace.

**(6) Context of Assessment**

Assessment may take place on the job, off the job or a combination of both of these. However, assessment of this unit would most effectively be undertaken on the job due to the specific workplace environment requirements. Off the job assessment must be undertaken in a closely simulated workplace environment.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

## ECECOR0101A: Perform measurements and calculations

Competency Descriptor:

This unit deals with the skills and knowledge required to effectively carry out measurements and calculation of work to required tolerance.

Competency Field: Entertainment and culture

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Obtain measurements	<p>1.1 Accurate measurements are obtained to job instruction using appropriate measuring devices.</p> <p>1.2 Instruments are selected and are read to the limit of accuracy of the tool.</p> <p>1.3 Measurements are correctly identified/recorded without error.</p> <p>1.4 Quality Assurance requirements associated with enterprise's work operations are recognised and adhered to.</p>
2. Perform simple calculations	<p>2.1 Calculations needed to complete work tasks are performed using the four basic processes of addition, subtraction, multiplication and division.</p> <p>2.2 Calculations involving fractions, percentages and mixed numbers are used to complete workplace tasks.</p> <p>2.3 Knowledge of the mathematical relationships between various quantities is demonstrated.</p> <p>2.4 Calculations are performed accurately using established formulae and the results are applied to work activities.</p> <p>2.5 Basic statistical calculations are performed using given data.</p> <p>2.6 Basic calculations involving geometry, algebra and calculus are performed correctly where required.</p> <p>2.7 The functions of a calculator are used to perform workplace tasks.</p> <p>2.8 Numerical information is self-checked and corrected for accuracy.</p>

- |    |                                 |     |  |
|----|---------------------------------|-----|--|
| 3. | Estimate approximate quantities | 3.1 | Quantities of materials and resources required to complete a work task are estimated.  |
|    |                                 | 3.2 | Measurements or quantities are estimated (approximately) on worksite or from job instructions.   |
|    |                                 | 3.3 | The time needed to complete a work activity is estimated.  |
|    |                                 | 3.4 | Accurate estimates for work completion are made.   |
|    |                                 | 3.5 | Costs for materials and projects are estimated to be within a reasonable range of the actual costing.  |
| 4. | Interpret charts and graphs     | 4.1 | Information extracted from charts and graphs are correctly interpreted.  |
|    |                                 | 4.2 | Information extracted from charts and graphs are applied in the decision making process.   |
|    |                                 | 4.3 | Information presented in mathematical symbols, diagrams and pictorial representations is recognised, interpreted and used to complete workplace tasks. |

## RANGE STATEMENT

This unit applies to activities associated with the essential operations linked to performing measurements and calculations.

Calculation may include:

- area
- perimeter
- angles
- mass
- scales
- quantities
- ratios (ingredients/elements and triangulation)
- proportion
- volume

Measurements may include:

- linear quantities
- volume
- density
- angular dimensions

Measuring devices and instruments may include:

- rule
- tape measure
- protractor
- square
- plumb line
- stop clock
- containers to measure volumes
- multimeter

Job instruction may involve:

- verbal direction/instruction
- written instruction
- provision of job drawing and details

Workplace procedures may relate to:

- safety
- process-specific procedures
- use of materials
- recycling
- cost control
- reporting

Materials may include:

- clothe
- paper
- wood
- metal
- liquids
- chemicals

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability perform measurements and calculations in accordance with the range listed in the range statement, relevant to the work orientation.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- communicate effectively to enable accurate calculations and measurements
- demonstrate safe and effective use of measuring devices
- accurate measurements taken and recorded
- select appropriate mathematical process and perform calculations to specifications
- estimate quantities and costs to requirements
- interpret charts and graphs
- locate, interpret and apply relevant information
- maintain workplace records

### (2) Pre-requisite Relationship of Units

The pre-requisite for this unit is:

- Nil

### (3) Underpinning Knowledge and Skills

#### Knowledge

Knowledge of:

- drawings and specifications
- materials relevant to the work process
- mathematical operations in geometry, measurement and calculations
- costing relevant to the work activity
- charts and graphs
- units of measurements
- relationship between quantities
- measuring devices and equipment
- application of mathematical procedures including addition, subtraction, multiplication, division, percentages and fractions

**Knowledge**

Knowledge of: (Cont'd)

- metric and where required, imperial measurement systems
- use dial, scale and digital readouts
- calculating devices
- basic statistical calculation
- enterprise policies and procedures
- quality standards
- Occupational Health and Safety requirements

**Skills**

The ability to:

- read and interpret drawings/instructions
- measure and calculate manually
- record measurements
- operate electronic calculating devices
- interpret charts and graphs
- communicate effectively
- manipulate formulae
- use measuring devices and equipment safely

**(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)
- relevant measuring devices and equipment
- work instructions/drawing and materials
- enterprise policies and procedures and quality standards
- Occupational Health and Safety requirements

**(5) Method of Assessment**

Assessment methods must confirm consistency of performance over time and in a range of workplace relevant contexts.

Assessment should include direct observation of tasks and/or samples of work and questioning on underpinning knowledge.

Evidence may be collected in a variety of ways including:

- direct observation
- oral questioning
- written test
- evaluation of previous work/products made
- testimonials from clients
- evaluation of qualifications/portfolio/awards/resume/workplace documents
- authenticated assessments and/or assignments from relevant training courses
- supporting statement from supervisor or previous employer

**(5) Method of Assessment (Cont'd.)**

Assessment should be conducted over time and will generally be in conjunction with assessment of other units of competency.

Simulated activities must closely reflect the workplace.

**(6) Context of Assessment**

Assessment may take place on the job, off the job or a combination of both of these. However, assessment of this unit would most effectively be undertaken on the job due to the specific workplace environment requirements. Off the job assessment must be undertaken in a closely simulated workplace environment.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1	Level 2	Level 3
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

## ECEGEN0431A: Deal with emergency situations

### Competency Descriptor:

This unit deals with the skills and knowledge required to deal with emergency situations that may occur or affect clients and workers.

Competency Field: Entertainment and culture

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Carry out emergency procedures in the event of a fire	1.1	Fire fighting equipment is correctly used in accordance manufacturer's specifications.
		1.2	Appropriate emergency procedures are followed in accordance with enterprise emergency plan.
		1.3	Evacuation procedures are correctly followed in a calmly and orderly.
		1.4	Unexpected situations are dealt with in accordance with established procedures and guidelines.
		1.5	Information is accurately recorded and submitted to the relevant authority in accordance with enterprise policies and procedures.
2.	Carry out emergency procedures in the event of accidents	2.1	Emergency procedures applied are in accordance with given instructions.
		2.2	Appropriate action is taken to ensure safety of injured and uninjured persons in accordance with given guidelines.
		2.3	Comfort and reassurance is given to injured persons.
		2.4	Personal emergency and accidents are reported in an appropriate manner and to the appropriate personnel.
		2.5	Accidents are identified and action taken immediately.
3.	Deal with suspicious items	3.1	Suspicious items and packages are identified and promptly reported to the appropriate personnel.
		3.2	Correct safety and security procedures are followed in a calm and orderly manner.



- |    |   |     |   |
|----|---|-----|---|
| 4. | Deal with suspicious occurrences                                  | 4.1 | Suspicious behaviour and occurrences are promptly identified.   |
|    |   | 4.2 | Any suspicious behaviour or occurrences are promptly reported to the designated person.   |
| 5. | Carry out emergency procedures in the event of a natural disaster | 5.1 | Appropriate steps are taken to protect life and property in the event of a natural disaster.  |
|    |   | 5.2 | Damages to life and property are identified and all relevant documents accurately prepared and dispatched to the appropriate personnel. |
|    |   | 5.3 | Unsafe areas are identified and persons evacuated immediately.  |
|    |   | 5.4 | Correct evacuation procedures are followed in a calm, orderly manner in accordance with enterprise procedures.                          |
|    |   | 5.5 | Unexpected situations are reported and handled in accordance with enterprise procedures.  |
|    |   | 5.6 | Emergency procedures are followed in accordance with statutory and enterprise guidelines.   |
|    |   | 5.7 | Information is documented and communicated clearly and accurately.  |

## RANGE STATEMENTS

This unit applies to activities associated with the essential operations linked to dealing emergency situations.

Fire extinguishing equipment and supplies to include:

- extinguishers (A, B & C)
- sand, water
- Wet Blanket

Types of fire to include:

- fires involving combustible materials (wood, paper, cloth)
- fires involving flammable liquids (gasoline, kerosene, thinner, grease);
- fires involving electrical equipment

Emergency procedure to include:

- eliminating cause of fire
- use of fire extinguishers
- alerting appropriate personnel
- reassuring client

Suspicious items or packages:

- all bags
- packages and parcels which have been left unattended for no apparent reason
- unusual deliveries

Accidents involving injury to staff and clients which require basic first aid may include:

- burns
- choking
- cuts
- falls
- electrical shock
- chemical spills

Emergencies that must be reported to include:

- heart attack
- drug overdose
- fainting
- diarrhoea
- vomiting
- food poisoning

Potential hazards resulting from earthquake:

- objects that may fall
- cracks in walls and floors
- exposed electrical wires
- wet floors
- broken sewer mains
- damages to life and property to include death, persons with broken limbs,
- damaged equipment, damaged building

Appropriate action to include:

- eliminating cause of accidents where possible
- rendering first aid
- alerting relevant department or personnel

Safety precautions to include:

- guidelines from the relevant statutory body
- enterprise's emergency plan

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to deal with emergency situations in accordance with the performance criteria and the range listed within the range of variables statement.

### (1) Critical Aspects and Evidence

It is essential that competence be observed in the following aspects:

- demonstrate knowledge of established emergency procedures and appropriate authorities responsible for dealing with emergencies
- correct use of fire extinguishers and application of emergency procedures when dealing with fires
- prompt response to deal with injuries within area of responsibility and to protect self and others
- demonstrate the ability to deal with emergency situations mentioned in the range of instances
- identify situations and carry out correct procedures for dealing with hazards, suspicious items and accidents
- identify and deal appropriately with security threats
- perform required documentation and reporting
- refer emergencies to appropriate authority to deal with promptly
- compliance with all statutory and enterprise emergency policies and procedures

**(2) Pre-requisite Relationship of Units**

The pre-requisite for this unit is:

- Nil

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- types of fire and the requisite fighting equipment
- proper use of fire fighting equipment
- safety precautions and procedures in evacuating a building in which there is fire
- emergency procedures in the event of fire
- cues in identifying suspicious items or packages
- how to deal with emergencies such as heart attack, drug overdose, fainting, diarrhea, vomiting, food poisoning
- emergencies that may occur following and earthquake
- post earthquake safety precautions
- precautionary measures in preparing for an for an impending hurricane.
- roles and function of bodies responsible
- for emergency preparedness and
- responses

Skill

The ability to:

- use fire fighting equipment
- carry out emergency procedures in the event of a fire
- identify suspicious items and packages
- deal with the discovery of suspicious items/packages
- carry out emergency procedures in the event of accidents
- follow emergency procedures in the event of a hurricane
- follow emergency procedures in the event of an earthquake

**(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)
- relevant established emergency procedures
- enterprise emergency plan
- procedures from relevant statutory authority dealing with disaster preparedness and emergencies
- enterprise policies and procedure s

**(5) Method of Assessment**

Assessment methods must confirm consistency of performance over time and in a range of workplace relevant contexts.

Assessment should include direct observation of tasks and/or samples of work and questioning on underpinning knowledge.

Evidence may be collected in a variety of ways including:

- direct observation
- oral questioning
- written test
- evaluation of how incidents were handled in the past
- testimonials from clients/colleagues
- evaluation of qualifications/portfolio/awards/resume/workplace documents
- authenticated assessments and/or assignments from relevant training courses
- supporting statement from supervisor or previous employer

Assessment should be conducted over time and will generally be in conjunction with assessment of other units of competency.

Simulated activities must closely reflect the workplace.

**(6) Context of Assessment**

Assessment may take place on the job, off the job or a combination of both of these. However, assessment of this unit would most effectively be undertaken on the job due to the specific workplace environment requirements. Off the job assessment must be undertaken in a closely simulated workplace environment.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

## ECEGEN0271A: Use and maintain measuring devices and equipment

Competency Descriptor:

This unit deals with the skills and knowledge required to use and maintain measuring equipment and devices to perform measurements and calculations.

Competency Field: Entertainment and Culture

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Identify appropriate measurement procedure	1.1	Workplace metrology requirements and the impact on work quality of inaccurate measurement are identified.
		1.2	The functions and operation of measuring devices and equipment are understood and explained.
		1.3	Units for measurement of various parameters are identified.
		1.4	Measuring equipment and device appropriate for the task is selected in accordance with work requirements.
		1.5	Dimensions to be measured are accurately identified from specifications and work procedures.
		1.6	Appropriate equipment features/scales for the process is selected.
		1.7	Mathematical processes required to complete the task are selected in accordance with established scientific principles.
2.	Check calibration of device and equipment	2.1	Calibration checks are identified in accordance with manufacturer's specifications.
		2.2	Equipment and devices are checked for calibration/zero in accordance with manufacturer's procedures.
		2.3	Calibration is checked against specification for a range of measurement and scale.
		2.4	Appropriate action is taken when equipment is out of calibration in accordance with manufacturer's specifications and enterprise policies and procedures.
3.	Carry out measurement and calculation	3.1	Appropriate measuring instruments are selected in accordance with work requirements.
		3.2	Calculations needed to complete the work tasks are performed following the correct procedures.
		3.3	Numerical information is self-checked and corrected for

- accuracy.
- 3.4 Instruments are read to the limit of accuracy of the tool and matched to specification.
  - 3.5 Results are checked against specifications and appropriate action is taken in accordance with workplace procedures.
  - 3.6 Measurements are accurately recorded and reported in accordance with workplace procedures.
  - 3.7 Equipment and devices are stored in accordance with manufacturer's standards or workplace procedures.
4. Maintain measuring device and equipment
- 4.1 Information required for maintenance is accessed from appropriate manufacturer's specifications and correctly interpreted.
  - 4.2 Routine maintenance and storage of measuring equipment or device is carried out in accordance with manufacturer's specifications.
  - 4.3 Checks are completed without causing damage to any component or system.
  - 4.4 Workplace records are completed in accordance with enterprise policies and requirements.

## RANGE STATEMENT

This unit applies to activities associated with the essential operations linked to using and maintaining measuring devices and equipment.

Measurements may include measurement of:

- length
- roundness
- angles
- depth
- voltages
- resistance
- electromagnetic field
- electrical charges
- magnetism
- current
- polarity

Sources of information/documentation may include:

- manufacturer's specifications
- enterprise operating procedures
- work specifications
- technical manuals
- industry publications
- workplace records
- customer requirements
- industry standards
- workplace codes of practice

Measuring equipment and device may include:

- inside/outside micrometers
- vernier callipers
- dial gauges
- depth gauges
- rulers and squares
- dividers and protractors
- oscilloscope
- multimeter
- cable checkers
- tone generator

Maintenance may include:

- cleaning
- lubrication
- replacing batteries
- removal of contaminants
- replacing consumables
- re-energizing batteries

Workplace policies and procedures may include:

- hazard policies and procedures
- emergency, fire and accident procedures
- personal safety procedures
- procedures for the use of personal protective clothing and equipment
- conflict resolution procedures
- job procedures
- work instructions
- quality procedures
- environmental procedures

Calculations may include:

- area
- power
- capacitance
- voltages
- resistance
- statistical determinations

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to use and maintain measuring devices and equipment in accordance with the performance criteria and the range listed within the range of variables statement.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate knowledge of measuring equipment and devices and their applications
- determine work requirements and appropriate measuring instrument to be used
- select measuring equipment/device most appropriate for the task
- prepare the measuring equipment/device for use
- measure dimensions or variables and perform required calculations
- maintain measuring equipment/device and store appropriately after use
- complete essential post activity housekeeping
- communicate effectively with others in associated areas
- apply relevant Occupational Health and Safety requirements and enterprise policies and procedures
- perform all task in accordance with standard operating procedures and quality requirements

### (2) Pre-requisite Relationship of Units

The pre-requisite for this unit is:

- Nil



**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- measuring equipment and devices and their applications
- units of measurements
- relationship between quantities
- calculation principles
- calibration procedures
- manufacturer's specifications on use and maintenance of instruments
- metric and imperial measurement systems
- use of dials, scales and digital readouts
- Occupational Health and Safety regulations/requirements
- equipment, material and personal safety requirements
- measuring procedures
- enterprise policies and procedures
- quality assurance requirements
- industry standards and codes of practice

Skills

The ability to:

- read and interpret technical information
- identify work requirements
- identify appropriate instrument and dimensions
- use and maintain measuring instrument safely
- check and calibrate instrument
- communicate effectively
- perform measurements and calculations accurately
- solve problems
- carry out recording and reporting
- complete work to quality requirements

**(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)
- measuring equipment and devices
- work specifications
- manufacturer's specifications on the use of measuring equipment
- appropriate materials, tools and equipment
- enterprise policies and procedures
- Occupational Health and Safety requirements

**(5) Method of Assessment**

Assessment methods must confirm consistency of performance over time and in a range of workplace relevant contexts.

Assessment may incorporate a range of methods to assess performance and the application of essential underpinning knowledge, and might include:

- direct observation of the candidate completing measurements using a range of measuring devices/equipment and maintaining the devices/equipment
- evaluation of measurements in work operations and maintenance of devices/equipment which has been completed by the candidate

**Method of Assessment (Cont'd)**

- oral or written questioning to assess knowledge relating to using and maintaining measuring devices/equipment, measurements and related computations
- review of portfolios of evidence or third party workplace reports of on-the-job performance by the candidate
- practical demonstration of skills through the completion of a range of measurements and measuring device/equipment maintenance activities
- project or work activities that allow knowledge to be applied to specific production contexts and situations

Assessment should be conducted over time and will generally be in conjunction with assessment of other units of competency.

Simulated activities must closely reflect the workplace.

### (6) Context of Assessment

Assessment may take place on the job, off the job or a combination of both of these. However, assessment of this unit would most effectively be undertaken on the job due to the specific workplace.

Environment requirements. Off the job assessment must be undertaken in a closely simulated workplace environment.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1	Level 2	Level 3
<ul style="list-style-type: none"> <li>• Carries out established processes</li> <li>• Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Manages process</li> <li>• Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>• Establishes principles and procedures</li> <li>• Evaluates and reshapes process</li> <li>• Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**LMFCOR0071A: Read and interpret work documents**

Competency Descriptor:

This unit deals with the skills and knowledge required to interpret work documents including cutting lists, standards, drawings and specifications to produce or repair furnishings and to install furnishing items.

Competency Field:

Timber Furniture Manufacturing

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Identify document type and purpose	1.1	Key information is identified, such as title, version, scale, legend and keys.
		1.2	Any relevant explanatory or additional information needed to interpret the document is located.
		1.3	Clarification is sought to confirm the intention of information.
2.	Read and interpret the document	2.1	Information such as symbols, abbreviations, acronyms and technical terms are identified and interpreted in terms of: <ul style="list-style-type: none"> <li>• the work to be completed</li> <li>• any statutory requirements</li> <li>• the equipment and tools to be used</li> <li>• the items to be produced or repaired</li> </ul>
		2.2	Document information is compared to component or supplier recommendations for use of the materials and, where appropriate, relevant statutory requirements.
		2.3	Design and style features shown in drawings are identified by industry recognised terms.
3.	Plan own work sequence	3.1	Work sequence, required tools and equipment and tasks to be performed are identified from the documents.
		3.2	Work sequence is planned, identifying stages where checks against specifications must be made.
		3.3	Specifications noted in the work plan are checked for accuracy against the drawings and specifications, and any errors are rectified.

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|----|-------------------------|-----|--|
| 4. | Maintain document files | 4.1 | Plans and documents are handled carefully and maintained intact.   |
|    |                         | 4.2 | Any explanatory documentation, additional information and/or modification information is kept with the work plan and original documentation according to workplace procedures. |
|    |                         | 4.3 | All documentation replaced in workplace filing or storage system for retrieval by others as required.  |

## RANGE STATEMENT

The Range Statement provides advice to interpret the scope and context of this unit of competency, allowing for differences between school shops and workplaces. It relates to the unit as a whole and facilitates holistic assessment.

Work is to be carried out in accordance with statutory obligations, environmental legislation, relevant health regulations, and organisation insurance requirements.

Work requires individuals to demonstrate some discretion, judgement and problem solving skills in the reading of work documents and the preparation of work plans.

The following variables may be present for this particular unit.

Competency may be determined in workplaces involved in the manufacture and or installation of:

- domestic furniture
- commercial furniture
- kitchen and bathroom cabinets
- furniture components, picture frames
- soft furnishings
- floor covering and finishing
- glass and glazing

OH&S requirements include:

- relevant statutory requirements
- material safety management systems
- hazardous substances and dangerous goods
- safe operating procedures

Work documents to be considered are to include but may not be limited to:

- standards
- drawings
- cutting lists
- job specifications and architects'/builders' plans or equivalent, and
- manufacturers' specifications and/or operating instructions
- Work documents are to include hard copy and may include computerised versions

Information and procedures:

- workplace plans, drawings and specifications applicable to all sectors of the industry
- relevant statutory requirements applicable to the industry sectors
- workplace procedures relating to the preparation of own work plans and the maintenance of work documentation
- suppliers' and manufacturer's technical data and information
- workplace procedures relating to reporting and communication

## EVIDENCE GUIDE

The Evidence Guide identifies the critical aspects, knowledge and skills to be demonstrated to confirm competency for this unit. This is an integral part of the assessment of competency and should be read in conjunction with the Range Statement.

### (1) Critical Aspects of Evidence

- recognise and explain the meanings of symbols, technical terms and conventions of specifications and plans
- check accuracy of copied specifications
- maintain condition of documentation
- locate, read and interpret a minimum of 10 selected/specified work documents which must include:
  - statutory requirements relevant to the sector
  - manufacturers' technical instructions and specifications
- real or simulated local work documents including:
  - work plans
  - material safety data sheets
  - relevant building codes, where appropriate
  - job procedures
  - safe work instructions or equivalent
  - work effectively with others
- modify activities to cater for variations in workplace context and environment

### (2) Pre-requisite Relationship of Units

Pre-requisites for this unit are:

- Nil

### (3) Underpinning Knowledge and Skills

#### Knowledge

Knowledge of:

- different types of work documents used in the furnishing industry, and their function
- conventions and symbols of plans, drawings and specifications
- workplace procedures for maintenance of documentation

**Skills**

The ability to:

- collect, organise and understand information related to the range of work documents relevant to the sector
- communicate ideas and information to enable confirmation of work requirements and specifications
- plan and organise activities to avoid any back tracking, work flow interruptions or wastage
- work with others and in a team by recognising dependencies and using cooperative approaches to optimise information management
- use mathematical ideas and techniques to correctly interpret the content of work documents
- identify alternative methods of accessing and sources of work information
- use workplace technology related to work documentation, its access and storage

**(4) Resource Implications**

- access to a range of drawings, standards, plans, specifications and cutting lists relevant to the work

**(5) Method of Assessment**

Assessment methods must confirm consistency of performance over time and in a range of workplace relevant contexts.

Assessment should be by direct observation of tasks and questioning on underpinning knowledge.

Assessment should be conducted over time and generally be in conjunction with assessment of other units of competency.

**(6) Context of Assessment**

Assessment may occur on the job or in a workplace simulated facility with relevant process, equipment, materials, work instructions and deadlines.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 2	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 2	
Work with others and in team	Level 2	
Use mathematical ideas and techniques	Level 3	
Solve problems	Level 2	
Use technology	Level 2	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

## **ECCGEN0851A: Use and maintain hand and power tools**

Competency Descriptor:

This unit deals with skills and knowledge required to select, use and maintain appropriate hand and power tools in the completion of work activities.

Competency Field: Entertainment and culture

<b>ELEMENT OF COMPETENCY</b>		<b>PERFORMANCE CRITERIA</b>	
1.	Identify hand and power tools	1.1	Work operations requiring the use of hand and power tools are recognised.
		1.2	Types of hand and power tools and their functions are identified.
		1.3	Sources of and access to power supply are recognised.
2.	Select hand tools	2.1	Occupational Health and Safety requirements for using hand tools are recognised and adhered to during work operations.
		2.2	Appropriate personal protective equipment are selected, correctly fitted and used.
		2.3	Hand tools are selected consistent with needs of the job.
		2.4	Tools checked for serviceability and safety and any faults are reported to appropriate personnel.
		2.5	Equipment are selected to hold or support material for hand tools application where applicable.
3.	Use hand tools	3.1	Hand tools are used to produce desired outcomes to job specifications.
		3.2	Material is located and held in position for hand tool application.
		3.3	Workplace health and safety requirements, including personal protection needs, are observed throughout the work.
		3.4	All damages and faults arising from immediate use are repaired within own area of responsibility or are marked for repair according to designated procedures.



- 3.5 Hand tools are cleaned and stored safely in appropriate location according to enterprise guidelines and manufacturer's recommendations.
  - 3.6 Work area is cleaned, all waste is removed and properly disposed of.
- 4. Select power tools
  - 4.1 Occupational Health and Safety (OH&S) requirements for using power tools recognised and adhered to.
  - 4.2 Appropriate personal protective equipment selected, correctly fitted and used.
  - 4.3 Power tools and leads/hoses are selected consistent with needs of job in accordance with conventional work practice.
  - 4.4 Power tools and leads/hoses visually checked for serviceability/safety in accordance with OH&S requirements and any faults are reported to the appropriate personnel.
  - 4.5 Equipment are selected to hold or support materials for power tool application where applicable.
- 5. Establish power/air supply to work location
  - 5.1 Route is identified for safe placement of leads/hoses and is cleared of all hazards.
  - 5.2 Electric power leads is run out to power supply and is supported overhead to be clear of traffic or is covered if presenting possible trip hazard.
  - 5.3 Electric power leads are connected to supply and power board or directly to power tool.
  - 5.4 Air hoses are run out to compressed air supply and are covered if presenting possible trip hazard.
  - 5.5 Hoses are connected to power tool and air supply in accordance with manufacturer's specifications.
- 6. Use power tools
  - 6.1 Power tools are used following a determined sequence of operations to produce desired outcomes.
  - 6.2 Workplace health and safety requirements, including personal protection needs, are observed throughout the work.
  - 6.3 Unsafe or faulty tools are identified and marked for repair according to established procedures.

- |    |                               |  |  |
|----|-------------------------------|--|--|
|    | 6.4                           | Power tools are cleaned and stored safely in appropriate location according to standard workshop procedure and manufacturer's recommendations. |  |
|    | 6.5                           | Work area is cleaned, all waste is removed and properly disposed of.   |  |
| 7. | Maintain hand and power tools | 7.1  | Maintenance procedures are identified.   |
|    |                               | 7.2  | Routine maintenance of hand and power tools is performed in accordance with enterprise guidelines and manufacturers' specifications. |
|    |                               | 7.3  | Repair needs are documented and reported to the appropriate personnel.   |
|    |                               | 7.4  | Hand and power tools are safely stored under the conditions recommended by the manufacturers.  |
|    |                               | 7.5  | Documentation is completed in accordance with enterprise procedures.   |

## RANGE STATEMENT

This unit applies to activities associated with the essential operations linked to using and maintaining hand and power tools.

Hand tools include, but are not limited to:

- wire strippers
- chisels
- saws
- scissors
- hammers
- measuring tapes
- pliers
- sealant gun
- hoops
- spirit level, straight edge
- screwdrivers

Power tools include:

- drills
- nail guns
- staplers
- screwdrivers
- sanders
- circular saw

Personal protective equipment may include:

- overalls
- boots
- hard hat/cap
- safety glasses/goggles
- gloves
- ear plugs/muffs
- face masks/respirators

Maintenance may include:

- cleaning
- sharpening
- lubricating
- repairing

Workplace procedures may relate to:

- safety
- process-specific procedures
- use of materials
- recycling
- cost control
- reporting

Occupational Health and Safety requirements may include:

- workshop/worksite safe working practices
- use of tools and equipment
- use of power tools
- safe handling and storage of materials

Power supply to include but not limited to:

- electricity
- compressed air

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to use and maintain hand and power tools in accordance with the performance criteria and the range listed within the range of variables statement.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- indicate compliance with organisational policies and procedures including Quality Assurance requirements
- adopt and carry out correct procedures prior to and during use of hand tools and power tools
- demonstrate safe and effective operational use of tools and equipment
- interactively communicate with others to ensure safe and effective operations

### (2) Pre-requisite Relationship of Units

Pre-requisite for this unit is

- Nil

**(3) Underpinning Knowledge and Skills**Knowledge

knowledge of:

- workplace and equipment safety requirements
- portable power tools
- hand tools and equipment
- materials
- materials handling whilst operating tools
- work shop procedures
- maintenance procedures
- storage procedures
- Occupational Health and Safety requirements

Skills

The ability to:

- work safely to instructions
- apply appropriate hand-eye co-ordination in the use of tools
- handle/hold materials during operation of tools
- select appropriate tools for material usage
- communicate effectively
- interpret safety requirements
- maintain tools
- store tools correctly

**(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)
- personal protective equipment
- safety and maintenance procedures
- hand and power tools

**(5) Method of Assessment**

Assessment methods must confirm consistency of performance over time and in a range of workplace relevant contexts.

Assessment should include direct observation of tasks and/or samples of work and questioning on underpinning knowledge.

Evidence may be collected in a variety of ways including:

- direct observation
- oral questioning
- written test
- evaluation of tools and maintenance records
- testimonials from clients/colleagues
- evaluation of qualifications/portfolio/awards/resume/workplace documents
- authenticated assessments and/or assignments from relevant training courses
- supporting statement from supervisor or previous employer

Assessment should be conducted over time and will generally be in conjunction with assessment of other units of competency.

Simulated activities must closely reflect the workplace.

**(6) Context of Assessment**

Assessment may take place on the job, off the job or a combination of both of these. However, assessment of this unit would most effectively be undertaken on the job due to the specific workplace environment requirements. Off the job assessment must be undertaken in a closely simulated workplace environment.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>• Carries out established processes</li> <li>• Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Manages process</li> <li>• Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>• Establishes principles and procedures</li> <li>• Evaluates and reshapes process</li> <li>• Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**ECELIG1001A: Install and connect electrical wiring**

Competency Descriptor:

This unit deals with the skills and knowledge required to install, connect and terminate electrical wiring for lighting operations.

Competency Field: Lighting Operations

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Prepare for work	<p>1.1 Work is planned and prepared to ensure procedures are followed and the work is appropriately sequenced in accordance with requirements.</p> <p>1.2 Condition and ratings under which the circuit is to operate is determined from requirements and in consultation with appropriate personnel followed by written instruction.</p> <p>1.3 Cables and electrical accessories are selected to comply with standards and requirements for the condition and determined rating.</p> <p>1.4 Materials necessary to complete the work are obtained in accordance with established procedures and checked against job requirements.</p> <p>1.5 Tools, equipment and testing devices needed to carry out the work are obtained in accordance with established procedures and checked for correct operation and safety.</p> <p>1.6 Potential safety hazards/risks are identified and prevention and/or control measures are employed in accordance with health and safety requirements.</p> <p>1.7 Occupational health and safety requirements include use of personal protective gear are identified and followed and a clean and safe work environment is maintained.</p>
2. Install electrical wiring	<p>2.1 Electrical wiring are inspected and tested for faults and defects in accordance with manufacture's specifications, regulatory requirements and enterprise policies and procedures.</p> <p>2.2 Defective electrical cables are replaced and reported in accordance with enterprise policies and procedures.</p> <p>2.3 Route for cable installation is selected that ensures integrity of circuit and safety of all persons.</p>

- 2.4 All electrical cables are installed and secured in accordance with enterprise policies and procedures, regulatory requirements and industry standards.
  - 2.5 ALL installation, terminations and connections are made following the correct procedures in accordance with regulatory requirements, manufacturers' specifications and industry standards.
  - 2.6 All cables, wires and conductors are marked/tagged and labelled in accordance with enterprise policies and procedures, regulatory requirements and industry standards.
  - 2.7 The integrity of insulated material is maintained in accordance with requirements.
  - 2.8 All completed installations are tested for compliance with regulatory requirements, manufacturers' specifications and industry standards.
3. Connect electrical wiring
  - 3.1 Terminations and connections are made in accordance with regulatory requirements, manufacturers' specifications and industry standards.
  - 3.2 All terminations and connections are tested for compliance with specifications, regulatory requirements and industry standards.
  - 3.3 All cables, wires, conductors and connections are marked/tagged and labelled in accordance with enterprise policies and procedures, regulatory requirements and industry standards.
4. Test and connect equipment/accessories
  - 4.1 Equipment/accessories to be connected are inspected and tested for faults and defects in accordance with manufacture's specifications, regulatory requirements and enterprise policies and procedures.
  - 4.2 Defective equipment/accessories are replaced and reported in accordance with enterprise policies and procedures.
  - 4.3 Equipment/accessories are connected in accordance with manufacture's specifications, regulatory requirements and industry standards.
  - 4.4 All connections are tested for compliance with specifications, regulatory requirements and industry standards.

- 4.5 All equipment are marked/tagged and labelled in accordance with enterprise policies and procedures, regulatory requirements and industry standards.
5. Complete work
- 5.1 Work is inspected and checked for compliance with enterprise quality assurance requirements, regulatory requirements and industry standards.
- 5.2 Approval is obtained from authorised personnel to confirm completion of work is in accordance with established procedures before supply is connected.
- 5.3 Work area is cleared of waste and all tools and equipment are cleaned and stored in accordance with enterprise policies and procedures.
- 5.4 All cables and connections are covered, secured and positioned so they do not become a hazard/obstacle to patrons and other personnel.
- 5.5 Status report(s) are completed and notified in accordance with established procedures.

## RANGE STATEMENT

This unit applies to activities associated with the essential operations linked to installing and connecting electrical wiring.

Termination and connection may include:

- soldered joints
- crimping
- clamping
- pin connection
- plugs sockets

Material may include:

- cable
- solder
- connectors
- straps
- electrical tape

Tools and equipment may include:

- pliers
- screwdrivers
- hammers
- multimeter
- soldering iron

Damages to accessories may include:

- cracked protective casing
- missing pieces
- missing connectors pins
- cracked conductors

Accessories may include:

- power outlets
- breakers
- transformers

Electrical supplies may include:

- alternating current
- direct current



## Testing may include:

- continuity test
- resistance test
- insulation test
- polarity test

## Personal protective equipment may include:

- overalls
- boots
- safety glasses/goggles
- gloves
- ear plugs/muffs
- electrostatic discharge (ESD) kit
- face masks/respirators

## Workplace policies and procedures may include:

- hazard control policies and procedures
- emergency, fire and accident procedures
- personal safety procedures
- procedures for the use of personal protective clothing and equipment
- conflict resolution procedures
- job procedures
- work instructions
- quality procedures
- environmental procedures

## Equipment may include:

- lamps
- lanterns
- dimmers
- consoles
- monitors
- pracs
- electrical/electronic props
- special effects, e.g. strobes, mirror balls and motors, smoke machines, fog machines, ultraviolet light, oil and water crackers, effects projectors

## Installation may include:

- surface mount
- flush mount
- in PVC (polyvinyl chloride) conduits
- in metal conduits

## Potential safety hazards may include:

- electrical shock
- damage to circuit boards
- electrostatic discharge
- overheating of components
- partial short circuits

## Occupational Health and Safety requirements may include:

- personal protective clothing and equipment
- hazard control policies and procedures
- emergency, fire and accident procedures
- safe handling and lifting procedures
- use and disposal of chemicals
- ergonomic considerations
- safe usage and storage of tools, material and equipment
- safe working environment

## Sources of information/documentation may include:

- manufacturer's specifications
- enterprise operating procedures
- work specifications
- technical manuals
- industry publications
- workplace records
- customer requirements
- industry standards
- workplace codes of practice

Cable damage may include:

- crushing
- burning
- kinks
- cuts
- sheath twist
- bending radius

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to install and connect electrical wiring in accordance with the performance criteria and the range listed within the range of variables statement.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate knowledge of the electrical circuitry, installation and termination procedures and regulatory and industry requirements
- determine work requirements and plan and organise work to fulfill such requirements
- select and use tools, equipment and material to complete tasks to specifications
- identify and replace defective material/equipment/accessories
- use tools and equipment safely
- perform installation and termination procedures safely and
- perform testing and quality checks
- source, interpret and apply technical information to work activities
- complete essential post activity housekeeping
- communicate effectively with others in associated areas
- compliance with relevant Occupational Health and Safety requirements and industry standards
- perform all task in accordance with standard operating procedures, quality requirements and enterprise policies and procedures

### (2) Pre-requisite Relationship of Units

The pre-requisite for this unit is:

- Nil

### (3) Underpinning Knowledge and Skills

#### Knowledge

Knowledge of:

- electrical circuitry
- electrical principles
- power rating
- types of electrical cables
- electrical accessories

**Knowledge**

Knowledge of :( Cont'd)

- safety and work procedures
- regulatory standards
- usage and maintenance of tools and equipment
- joining and bonding methods
- types of joints
- conduit installation
- termination and connection methods
- installation methods
- lighting equipment and their characteristics
- enterprise policies and procedures
- quality requirements
- environmental protection
- industry standards and codes of practice
- relevant legislation from all levels of government that affects business operation
- Occupational Health and Safety requirements

**Skills**

The ability to:

- read and interpret technical information
- plan and organise work
- solve problems
- use and maintain tools and equipment
- perform installation and termination procedures
- accurately identify and replace defective material
- communicate effectively
- accurately carry out all recording, reporting and documentation activities
- work safely
- work in compliance with policies and procedures

**(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)
- request/work sheet
- relevant technical documentation, manuals and manufacturer's specifications
- logs and work reporting documentation
- relevant tools, equipment and materials
- enterprise policies and procedures
- legislative, statutory and Occupational Health and Safety requirements
- Industry standards and codes of practice

**(5) Method of Assessment**

Assessment methods must confirm consistency of performance over time and in a range of workplace relevant contexts.

Assessment should include direct observation of tasks and/or samples of work and questioning on underpinning knowledge.

Evidence may be collected in a variety of ways including:

- direct observation
- oral questioning
- written test
- evaluation of previous work/portfolio/workplace documents/projects
- testimonials from clients
- authenticated assessments and/or assignments from relevant training courses
- supporting statement from supervisor or previous employer

Assessment should be conducted over time and will generally be in conjunction with assessment of other units of competency.

Simulated activities must closely reflect the workplace.

**(6) Context of Assessment**

Assessment may take place on the job, off the job or a combination of both of these. However, Assessment of this unit would most effectively be undertaken on the job due to the specific workplace.

Environment requirements. Off the job assessment must be undertaken in a closely simulated workplace environment.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

## **ECELIG1011A: Install and terminate signal and data cables**

Competency Descriptor:

This unit deals with the skills and knowledge required to install and terminate signal and data cables in lighting operations.

Competency Field: Lighting Operations

<b>ELEMENT OF COMPETENCY</b>		<b>PERFORMANCE CRITERIA</b>	
1.	Prepare for installation and termination	1.1	Work requirements are identified from request/work orders and are clarified/confirmed with appropriate parties in accordance with enterprise policies and procedures.
		1.2	Work is planned in details and tasks are correctly sequenced to maximise safety and productivity.
		1.3	Appropriate tools, equipment and materials relevant to the task are determined and selected in accordance with work requirements.
		1.4	Tools and equipment are cleaned and prepared in accordance with manufacturer's specifications and enterprise policies and procedures.
		1.5	Relevant plans, diagrams and texts are selected and interpreted in accordance with the work requirements.
		1.6	Work area is prepared and organised in accordance with work requirements and enterprise policies and procedures.
		1.7	Potential safety hazards/risks are identified and prevention and/or control measures are employed in accordance with health and safety requirements.
		1.8	Occupational health and safety standards and statutory requirements are identified and applied to maintain clean and safe work environment.
2.	Select cables and connectors	2.1	Appropriate cables, conductors and terminators for installation procedures are accurately determined in accordance with customer requirements/work instructions and manufacturer's specifications.
		2.2	Cables, conductors and terminators are obtained in accordance with enterprise policies and procedures.
		2.3	Cables, conductors and terminals are inspected for flaws and compatibility in accordance with installation procedures.

- 3. Install signal and data cables
  - 2.1 Selected routes for installation of cables are in compliance with installation, safety and industry requirements.
  - 2.2 Installations are made to specifications, manufacturer's requirements, safety and industry regulations.
  - 3.3 Cables are securely fixed are in compliance with requirements for maintaining signal strength and reducing signal interference.
  - 3.4 All cables are marked/tagged and are labelled in accordance with enterprise and industry requirements.
- 4. Terminate signal and data cables
  - 4.1 Required isolations are confirmed where appropriate in accordance with installation requirements.
  - 4.2 Conductors and terminators are identified and appropriately labelled/colour coded in accordance with the installation specifications.
  - 4.3 Conductors and terminators are prepared and aligned in accordance with manufacturer's specifications.
  - 4.4 Conductors and terminators are connected, secured and terminated to appropriate specifications in accordance with the work plan and installation procedures.
  - 4.5 Terminations/connections are made to specifications, manufacturers' requirements, safety and industry requirements.
  - 4.6 Final job inspection is carried out and any flaws are corrected in accordance with the work plan.
- 5. Test installation and terminations
  - 5.1 Appropriate testing methodology is determined and selected in accordance with manufacturer's specifications, enterprise procedures and industry best practice.
  - 5.2 Appropriate testing tools and equipment are selected in accordance with testing methodology.
  - 5.3 Testing of cables and electrical/electronic connections are conducted in accordance with manufacturer's specifications and enterprise procedures.
  - 5.4 Appropriate corrective actions are taken to rectify faults where detected.
  - 5.5 System is optimised to meet operational requirements and customer satisfaction.
- 6. Complete the work
  - 6.1 Work is completed and appropriate personnel notified in

accordance with enterprise requirements.

- 6.2 Work area is cleared of waste, cleaned, restored and secured accordance with enterprise procedures.
- 6.3 Tools and equipment are maintained and stored in accordance with enterprise procedures.
- 6.4 All reports and documentation are completed correctly to required specifications.

## RANGE STATEMENT

This unit applies to activities associated with the essential operations linked to making and testing electrical/electronic connections.

Conductors and terminators may include:

- power cables
- passive terminators
- active terminators
- connectors
- data cables

Appropriate parties may include:

- supervisor
- client
- management
- colleagues
- help desk

Tools and equipment may include:

- screwdrivers
- pliers
- multimeter
- loopback plug
- software diagnostic tools
- test lamps
- continuity tester
- analogue or digital multimeters
- DMX, cable tester

Personal protective equipment may include:

- overalls
- boots
- safety glasses/goggles
- gloves
- ear plugs/muffs
- electrostatic discharge (ESD) kit
- face masks/respirators

Conductors and terminators flaws may include:

- loose connections
- missing pins
- cracks in protective cases
- faulty circuits
- crimps

Potential safety hazards may include:

- electrical shock
- damage to circuit boards
- electrostatic discharge
- overheating of components
- partial short circuit



Occupational Health and Safety requirements may include:

- personal protective clothing and equipment
- hazard control policies and procedures
- emergency, fire and accident procedures
- safe handling and lifting procedures
- use and disposal of chemicals
- ergonomic considerations
- safe usage and storage of tools, material and equipment
- safe working environment

Workplace policies and procedures may include:

- hazard control policies and procedures
- emergency, fire and accident procedures
- personal safety procedures
- procedures for the use of personal protective clothing and equipment
- conflict resolution procedures
- job procedures
- work instructions
- quality procedures
- environmental procedures

Sources of information/documentation may include:

- manufacturer's specifications
- enterprise operating procedures
- work specifications
- technical manuals
- industry publications
- workplace records
- customer requirements
- industry standards
- workplace codes of practice

Termination and connection may include:

- connectors
- clamping
- pin connection
- soldered joints
- crimping
- plugs sockets
- clamping of cables and wires, sealing entry points where required

Testing may include ensuring:

- all equipment is patched correctly
- all operational functions are working correctly
- all items that are controlled by the lighting desk are receiving data and are operating correctly
- there is a valid DMX line/signal

Cables may include:

- optic
- co-axial
- copper
- twisted-pair
- aluminium

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to install and terminate signal and data cable in accordance with the performance criteria and the range listed within the range of variables statement.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate knowledge of the types and characteristics of signal and data associated with lighting operations, data and signal cables installation and termination procedures and regulatory and industry requirements
- determine work requirements and plan and organise work to fulfill such requirements
- select and use tools, equipment and material to complete tasks to specifications
- identify and replace defective material/equipment/accessories
- use tools and equipment safely
- perform installation and termination procedures safely and

**Critical Aspects of Evidence (Cont'd)**

- perform testing and quality checks
- source, interpret and apply technical information to work activities
- complete essential post activity housekeeping
- communicate effectively with others in associated areas
- compliance with relevant Occupational Health and Safety requirements and industry standards
- perform all task in accordance with standard operating procedures, quality requirements and enterprise policies and procedures

**(2) Pre-requisite Relationship of Units**

The pre-requisite for this unit is:

- Nil

**(3) Underpinning Knowledge and Skills**

Knowledge

Knowledge of:

- types and characteristics of data and signal cables
- terminators and connectors
- operations and control of lighting equipment
- safety and work procedures
- industry regulations and standards
- quality requirements
- installation and testing tools and equipment
- materials used in installation
- connection of cables
- testing methods
- termination and connection methods
- installation methods
- enterprise policies and procedures

Skills

The ability to:

- work safely to instructions
- select and use appropriate tools and equipment
- perform installation and testing
- handle materials and connectors
- select material and supplies
- join cables
- terminate cables
- apply quality assurance

**(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)
- request/work sheet
- relevant technical documentation, manuals and manufacturer's specifications
- logs and work reporting documentation
- relevant tools, equipment and materials
- enterprise policies and procedures
- legislative, statutory and Occupational Health and Safety requirements
- Industry standards and codes of practice

**(5) Method of Assessment**

Assessment methods must confirm consistency of performance over time and in a range of workplace relevant contexts.

Assessment should include direct observation of tasks and/or samples of work and questioning on underpinning knowledge.

Evidence may be collected in a variety of ways including:

- direct observation
- oral questioning
- written test
- evaluation of previous work/portfolio/workplace documents/projects
- testimonials from clients
- authenticated assessments and/or assignments from relevant training courses
- supporting statement from supervisor or previous employer

Assessment should be conducted over time and will generally be in conjunction with assessment of other units of competency.

Simulated activities must closely reflect the workplace.

#### **(6) Context of Assessment**

Assessment may take place on the job, off the job or a combination of both of these. However, assessment of this unit would most effectively be undertaken on the job due to the specific workplace environment requirements. Off the job assessment must be undertaken in a closely simulated workplace environment.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>• Carries out established processes</li> <li>• Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Manages process</li> <li>• Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>• Establishes principles and procedures</li> <li>• Evaluates and reshapes process</li> <li>• Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

## ECELIG1032A: Operate simple floor electrics

Competency Descriptor:

This unit deals with the skills and knowledge required to effectively set up and operate simple floor electrics for a live production.

Competency Field: Lighting Operations

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Plan for lighting activities	1.1	Quality assurance requirements of enterprise's lighting production operations are recognised and adhered to.
		1.2	Knowledge of the relevant industry standards and best practices in regards to lighting operations is maintained.
		1.3	Job requirements are accurately identified from lighting plan/drawings and supervisor's instructions.
		1.4	Occupational Health and Safety (OH&S) requirements are identified and adhered to according to application tasks and workplace environment.
		1.5	Safety hazards are accurately identified and correct procedures adopted to minimise risk to self and others.
		1.6	Materials are selected according to supervisor's instructions or lighting plan requirements, safely handled and stored/located and made ready for application.
		1.7	Appropriate personal protective equipment are selected, correctly fitted and used.
		1.8	Tools and equipment selected are consistent with job requirements, checked for serviceability and any faults are corrected within own area of responsibility or are reported to the relevant personnel.
2.	Set up operating floor electrics	2.1	Prerequisite activities for floor electrics set up are identified from specifications or supervisor's instructions.
		2.2	Work area is prepared for set up of floor electrics according to enterprise guidelines, lighting requirements and supervisor's instructions.
		2.3	Preparation of equipment is carried out to satisfy requirements of installation process.

- 2.4 The appropriate procedures are followed to check and confirm that the equipment is clean, well maintained, and fit for use.
  - 2.5 Appropriate checks are made to ensure that platform is safe and secured when operating from height.
  - 2.6 Floor electrics are handled and rigged in accordance with the relevant lifting instructions, safety requirements and enterprise guidelines.
  - 2.7 Floor electrics are installed and positioned for full, unrestricted illumination and usage in accordance with industry practice and manufacturer's specifications.
  - 2.8 All aspects of the operations including control and communications system are tested and monitored using appropriate techniques and in accordance with safety requirements.
3. Operate floor electrics
- 3.1 Floor electrics are operated accurately according to the instructions of the person responsible for the lighting, manufacturers' instructions and industry codes of practice.
  - 3.2 The lighting cues required by the person responsible for the lighting are accurately reproduced.
  - 3.3 Cues and movements agreed during rehearsals are reviewed and reproduced accurately during the production.
  - 3.4 Lighting cues are accurately taken whilst maintaining unobtrusive lighting operation for both audiences and recording devices.
  - 3.5 Ability to achieve unobtrusive fade out and crossover for multi-equipment operation are accurately demonstrated in accordance with industry practice.
  - 3.6 Equipment are used safely and industry guidelines relevant to safe working at heights are applied.
  - 3.7 A suitably rated (RCD residual current device) is selected and lamps are safely changed when necessary in accordance with industry practice and manufacturer's specifications.
  - 3.8 The floor electrics are harmoniously and creatively operated without direction when unanticipated events occur.

- 3.9 Relevant personnel are clearly and accurately informed of any difficulties and potential problems and alternative provisions are agreed, including back-up provision, if needed.

## RANGE STATEMENT

This unit applies to activities associated with the essential operations linked to operating simple floor electrics.

Types of production involving lighting may include:

- concerts
- parties
- feature films
- documentaries
- short films
- animated productions
- commercials
- music video
- television productions of any type (eg music, drama, comedy, variety, sport)
- live or pre-recorded television productions

Hand tools include but are not limited to:

- chisels
- hacksaws
- hammers
- measuring tapes
- nips
- pliers
- spanners and wrenches
- wire cutters

Occupational Health & Safety requirements may include:

- workshop/worksite safe working practices
- use of tools and equipment
- use of power tools
- safe handling and storage of materials

Enterprise quality assurance requirements may include:

- quality of work
- testing procedures
- hand over procedure
- compliance with regulations and standards
- types of components
- tagging and labeling procedures

Personal protective equipment may include:

- overalls
- boots
- hard hat/cap
- safety glasses/goggles
- gloves
- ear plugs/muffs
- face masks/respirators

Power tools include:

- drills
- nail guns
- staplers
- screwdrivers
- sanders

Components may include:

- cables
- lens
- controls
- riggings
- lamps
- monitors

Industry standards and regulation may include:

- Institute of Electrical and Electronic Engineers specifications
- relevant regulation governing outdoor events
- appropriate lighting production standards
- relevant regulatory electrical wiring specifications

Prerequisite activities may include:

- installation of riggings
- installation of power system
- installation of stable foundations
- delivery of components
- removal of obstacles and potentially hazardous items
- getting permits

Equipment preparation may include:

- assembling component
- configuring component
- attachment of cables
- removal of packaging material
- attachment of protective devices
- rigging of components

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to operate simple floor electrics in accordance with the performance criteria and the range listed within the range of variables statement.

### (1) Critical Aspects and Evidence

It is essential that competence be observed in the following aspects:

- demonstrate knowledge of the lighting operations, equipment and processes and the range of applications relating to operating floor electrics
- determine work requirements and plan and organise work to fulfill such requirements
- identify, select and use tools, equipment and material to complete tasks to specifications
- recognition of floor electrics equipment and accessories, including key features and purpose
- set up and operate use of industry-current lighting equipment and accessories safely
- ability to apply a range of technical lighting knowledge and manual techniques to the installation and use of floor electrics so that the lighting set up meets the production and safety requirements
- handle material and equipment safely
- identify problems promptly and handle them as directed
- completion of lighting-related tasks in accordance with health and safety procedures
- perform testing and quality checks
- completion of tasks within typical workplace time constraints
- practical demonstration of skills through the installation and testing of lighting equipment for an actual production
- source, interpret and apply technical information to work activities
- involvement of and interaction with a team to reflect the collaborative nature of the technical production process
- compliance with relevant Occupational Health and Safety requirements and industry standards
- perform all task in accordance with standard operating procedures, quality requirements and enterprise policies and procedures



**(2) Pre-requisite Relationship of Units**

The pre-requisite for this unit is:

- Nil

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- different ways of installing floor electrics
- different electrical supplies and supply systems and how they affect safe use
- how to position, and make adjustments to, floor electrics in order to achieve effects
- how to identify a fault or problem on floor electrics, and what can be done to rectify them accurately and quickly
- how to identify difficulties and potential problems in various productions
- how to achieve safe working practices and how to work safely at heights
- how to follow cues and lighting instructions
- how to achieve lighting effects and colour changes
- the general scope and potential of lighting operations within different live production contexts, e.g. theatre, music, corporate
- the relationship between lighting operations and other technical and performance areas, including audio, vision systems and performance
- typical roles and responsibilities of the lighting technicians in different context
- lighting system options in a range of venue types
- specialised terminology that applies to lighting operations
- overview of different types of automated lights and the special requirements of this type of technology, including rigging orientation, powering, requirement for data supply and fixture addressing
- overview of appropriate use of standard lighting effects
- organisational and legislative Occupational Health and Safety legislation in particular relation to lighting operations
- lighting equipment handling, installation and storage
- organisation policies and procedures
- industry regulations, standards and best practices
- drawings and specifications
- portable power tools
- hand tools and equipment
- materials/components preparation and handling
- developing a work plan
- pre-installation requirements and processes
- workplace communications

**Skills**

The ability to:

- read and interpret technical information
- plan and organise work
- solve problems
- identify and operate equipment
- use and maintain tools and equipment
- install and handle equipment
- conduct test and interpret results
- identify and rectify faults
- rig and position simple floor electrics
- interpret lighting cues and operate floor electrics
- communicate effectively
- accurately carry out all recording, reporting and documentation activities
- work safely
- work in compliance with policies and procedures
- work at heights
- apply numeracy skills sufficient to make mathematical calculations necessary for the safe assembly, installation and testing of equipment
- apply literacy skills sufficient to interpret a lighting plan

**(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)
- request/work sheet
- relevant technical documentation, manuals and manufacturer's specifications
- logs and work reporting documentation
- a range of lighting equipment as identified in the Range Statement
- an environment in which lighting can be set up and operated
- a lighting plan from which the candidate is able to work
- a production and production venue
- lighting cues
- relevant tools, equipment and materials
- enterprise policies and procedures
- legislative, statutory and Occupational Health and Safety requirements
- Industry standards and codes of practice

**(5) Method of Assessment**

Assessment may incorporate a range of methods to assess performance and the application of essential underpinning knowledge, and might include:

- direct observation of the candidate completing preparations and operating equipment for activities involved in operating floor electrics
- evaluation of equipment which has been set up by the candidate
- oral or written questioning to assess knowledge of lighting activities relating to operating floor electrics

**Method of Assessment (Cont'd)**

- review of portfolios of evidence or third party workplace reports of on-the-job performance by the candidate
- practical demonstration of skills through the completion of a range of preparatory and set up tasks with industry-current floor electrics equipment
- project or work activities that allow knowledge to be applied to specific production contexts and situations

Assessment should be conducted over time and will generally be in conjunction with assessment of other units of competency.

Simulated activities must closely reflect the workplace.

**(6) Context of Assessment**

Assessment may take place on the job, off the job or a combination of both of these. However, assessment of this unit would most effectively be undertaken on the job due to the specific workplace environment requirements. Off the job assessment must be undertaken in a closely simulated workplace environment.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1	Level 2	Level 3
<ul style="list-style-type: none"> <li>• Carries out established processes</li> <li>• Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Manages process</li> <li>• Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>• Establishes principles and procedures</li> <li>• Evaluates and reshapes process</li> <li>• Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 2	
Communicate ideas and information	Level 2	
Plan and organise activities	Level 2	
Work with others and in team	Level 2	
Use mathematical ideas and techniques	Level 2	
Solve problems	Level 2	
Use technology	Level 2	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**ECELIG1042A: Operate follow spots**

Competency Descriptor:

This unit deals with the skills and knowledge required to effectively set up and operate follow spot for a live production.

Competency Field: Lighting Operations

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Plan for lighting activities	<p>1.1 Quality assurance requirements of enterprise's lighting production operations are recognised and adhered to.</p> <p>1.2 Knowledge of the relevant industry standards and best practices in regards to lighting operations is maintained.</p> <p>1.3 Job requirements are accurately identified from lighting plan/drawings and supervisor's instructions.</p> <p>1.4 Occupational Health and Safety (OH&amp;S) requirements are identified and adhered to according to application tasks and workplace environment.</p> <p>1.5 Safety hazards are accurately identified and correct procedures adopted to minimise risk to self and others.</p> <p>1.6 Materials are selected according to supervisor's instructions or lighting plan requirements, safely handled and stored/located and made ready for application.</p> <p>1.7 Appropriate personal protective equipment are selected, correctly fitted and used.</p> <p>1.8 Tools and equipment selected are consistent with job requirements, checked for serviceability and any faults are corrected within own area of responsibility or are reported to the relevant personnel.</p>
2. Set up follow spots	<p>2.1 Prerequisite activities for follow spot set up are identified from specifications or supervisor's instructions.</p> <p>2.2 Work area is prepared for set up of follow spots according to enterprise guidelines, lighting requirements and supervisor's instructions.</p> <p>2.3 Preparation of equipment is carried out to satisfy requirements of installation process.</p>

- 2.4 The appropriate procedures are followed to check and confirm that the equipment is clean, well maintained, and fit for use.
  - 2.5 Appropriate checks are made to ensure that platform is safe and secured when operating from height.
  - 2.6 Follow spots are handled and rigged in accordance with the relevant lifting instructions, safety requirements and enterprise guidelines.
  - 2.7 Follow spots are installed and positioned for full, unrestricted illumination and usage in accordance with industry practice and manufacturer's specifications.
  - 2.8 All aspects of the operations including control and communications system are tested and monitored using appropriate techniques and in accordance with safety requirements.
3. Operate follow spots
- 3.1 Follow spots are operated accurately according to the instructions of the person responsible for the lighting, manufacturers' instructions and industry codes of practice.
  - 3.2 The lighting cues required by the person responsible for the lighting are accurately reproduced.
  - 3.3 Cues and movements agreed during rehearsals are reviewed and reproduced accurately during the production.
  - 3.4 Lighting cues are accurately taken whilst maintaining unobtrusive spot operation for both audiences and recording devices.
  - 3.5 Ability to achieve unobtrusive fade out and crossover for multi spot operation are accurately demonstrated in accordance with industry practice.
  - 3.6 Equipment are used safely and industry guidelines relevant to safe working at heights are applied.
  - 3.7 A suitably rated RCD is selected and lamps are safely changed when necessary in accordance with industry practice and manufacturer's specifications.
  - 3.8 The spot is harmoniously and creatively operated without direction when unanticipated events occur.

- 3.9 Relevant personnel are clearly and accurately informed of any difficulties and potential problems and alternative provisions are agreed, including back-up provision, if needed.

## RANGE STATEMENT

This unit applies to activities associated with the essential operations linked to operating follow spots.

Types of production involving lighting may include:

- concerts
- parties
- feature films
- documentaries
- short films
- animated productions
- commercials
- music video
- television productions of any type (eg music, drama, comedy, variety, sport)
- live or pre-recorded television productions

Enterprise quality assurance requirements may include:

- quality of work
- testing procedures
- hand over procedure
- compliance with regulations and standards
- types of components
- tagging and labeling procedures

Hand tools include but are not limited to:

- chisels
- hacksaws
- hammers
- measuring tapes
- nips
- pliers
- spanners and wrenches
- wire cutters

Personal protective equipment may include:

- overalls
- boots
- hard hat/cap
- safety glasses/goggles
- gloves
- ear plugs/muffs
- face masks/respirators

Prerequisite activities may include:

- installation of riggings
- installation of power system
- installation of stable foundations
- delivery of components
- removal of obstacles and potentially hazardous items
- getting permits

Equipment preparation may include:

- assembling component
- configuring component
- attachment of cables
- removal of packaging material
- attachment of protective devices
- rigging of components

Power tools include:

- drills
- nail guns
- staplers
- screwdrivers
- sanders

Components may include:

- cables
- lens
- controls
- riggings
- lamps
- monitors

Occupational Health & Safety requirements may include:

- workshop/worksite safe working practices
- use of tools and equipment
- use of power tools
- safe handling and storage of materials

Industry standards and regulation may include:

- Institute of Electrical and Electronic Engineers specifications
- relevant regulation governing outdoor events
- appropriate lighting production standards
- relevant regulatory electrical wiring specifications

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to operate follow spot in accordance with the performance criteria and the range listed within the range of variables statement.

### (1) Critical Aspects and Evidence

It is essential that competence be observed in the following aspects:

- demonstrate knowledge of the lighting operations, equipment and processes and the range of applications relating to operating follow spots
- determine work requirements and plan and organise work to fulfill such requirements
- identify, select and use tools, equipment and material to complete tasks to specifications
- recognition of follow spot equipment and accessories, including key features and purpose
- set up and operate use of industry-current lighting equipment and accessories safely
- ability to apply a range of technical lighting knowledge and manual techniques to the installation and use of follow spots so that the lighting set up meets the production and safety requirements
- handle material and equipment safely
- identify problems promptly and handle them as directed
- completion of lighting-related tasks in accordance with health and safety procedures
- perform testing and quality checks
- completion of tasks within typical workplace time constraints
- practical demonstration of skills through the installation and testing of lighting equipment for an actual production
- source, interpret and apply technical information to work activities
- involvement of and interaction with a team to reflect the collaborative nature of the technical production process
- compliance with relevant Occupational Health and Safety requirements and industry standards
- perform all task in accordance with standard operating procedures, quality requirements and enterprise policies and procedures

**(2) Pre-requisite Relationship of Units**

The pre-requisite for this unit is:

- Nil

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- different ways of installing follow spots
- different electrical supplies and supply systems and how they affect safe use
- how to position, and make adjustments to, follow spots in order to achieve effects
- how to identify a fault or problem on follow spots, and what can be done to rectify them accurately and quickly
- how to identify difficulties and potential problems in various productions
- how to achieve safe working practices and how to work safely at heights
- how to follow cues and lighting instructions
- how to achieve lighting effects and colour changes
- the general scope and potential of lighting operations within different live production contexts, e.g. theatre, music, corporate
- the relationship between lighting operations and other technical and performance areas, including audio, vision systems and performance
- typical roles and responsibilities of the lighting technicians in different context
- lighting system options in a range of venue types
- specialised terminology that applies to lighting operations
- overview of different types of automated lights and the special requirements of this type of technology, including rigging orientation, powering, requirement for data supply and fixture addressing
- overview of appropriate use of standard lighting effects
- organisational and legislative Occupational Health and Safety legislation in particular relation to lighting operations
- lighting equipment handling, installation and storage
- organisation policies and procedures
- industry regulations, standards and best practices
- drawings and specifications
- portable power tools
- hand tools and equipment
- materials/components preparation and handling
- developing a work plan
- pre-installation requirements and processes
- workplace communications



**Skills**

The ability to:

- read and interpret technical information
- plan and organise work
- solve problems
- identify and operate equipment
- use and maintain tools and equipment
- install and handle equipment
- conduct test and interpret results
- identify and rectify faults
- rig and position follow spots
- interpret lighting cues and operate follow spots
- communicate effectively
- accurately carry out all recording, reporting and documentation activities
- work safely
- work in compliance with policies and procedures
- work at heights
- apply numeracy skills sufficient to make mathematical calculations necessary for the safe assembly, installation and testing of equipment
- apply literacy skills sufficient to interpret a lighting plan

**(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)
- request/work sheet
- relevant technical documentation, manuals and manufacturer's specifications
- logs and work reporting documentation
- a range of lighting equipment as identified in the Range Statement
- an environment in which lighting can be set up and operated
- a lighting plan from which the candidate is able to work
- a production and production venue
- lighting cues
- relevant tools, equipment and materials
- enterprise policies and procedures
- legislative, statutory and Occupational Health and Safety requirements
- Industry standards and codes of practice

**(5) Method of Assessment**

Assessment may incorporate a range of methods to assess performance and the application of essential underpinning knowledge, and might include:

- direct observation of the candidate completing preparations and operating equipment for activities involved in operating follow spots
- evaluation of equipment which has been set up by the candidate
- oral or written questioning to assess knowledge of lighting activities relating to operating follow spots
- review of portfolios of evidence or third party workplace reports of on-the-job performance by the candidate
- practical demonstration of skills through the completion of a range of preparatory and set up tasks with industry-current follow spot equipment
- project or work activities that allow knowledge to be applied to specific production contexts and situations

Assessment should be conducted over time and will generally be in conjunction with assessment of other units of competency.

Simulated activities must closely reflect the workplace.

**(6) Context of Assessment**

Assessment may take place on the job, off the job or a combination of both of these. However, assessment of this unit would most effectively be undertaken on the job due to the specific workplace environment requirements. Off the job assessment must be undertaken in a closely simulated workplace environment.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1	Level 2	Level 3
<ul style="list-style-type: none"> <li>• Carries out established processes</li> <li>• Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Manages process</li> <li>• Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>• Establishes principles and procedures</li> <li>• Evaluates and reshapes process</li> <li>• Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 2	
Communicate ideas and information	Level 2	
Plan and organise activities	Level 2	
Work with others and in team	Level 2	
Use mathematical ideas and techniques	Level 2	
Solve problems	Level 2	
Use technology	Level 2	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

## **ECELIG1052A: Operate basic lighting equipment**

Competency Descriptor:

This unit deals with the skills and knowledge required to operate basic lighting equipment for a live production.

Competency Field: Lighting Operations

<b>ELEMENT OF COMPETENCY</b>		<b>PERFORMANCE CRITERIA</b>	
1.	Plan for lighting activities	1.1	Quality assurance requirements of enterprise's lighting production operations are recognised and adhered to.
		1.2	Knowledge of the relevant industry standards and best practices in regards to lighting operations is maintained.
		1.3	Job requirements are accurately identified from lighting plan/drawings and supervisor's instructions.
		1.4	Occupational Health and Safety (OH&S) requirements are identified and adhered to according to application tasks and workplace environment.
		1.5	Safety hazards are accurately identified and correct procedures adopted to minimise risk to self and others.
		1.6	Materials are selected according to supervisor's instructions or lighting plan requirements, safely handled and stored/located and made ready for application.
		1.7	Appropriate personal protective equipment are selected, correctly fitted and used.
		1.8	Tools and equipment selected are consistent with job requirements, checked for serviceability and any faults are corrected within own area of responsibility or are reported to the relevant personnel.
2.	Prepare and install lighting equipment	2.1	Key information is extracted from lighting plans and requirements are confirmed with supervisor in accordance with enterprise policies and procedures.
		2.2	Visual and aesthetic requirements of the production are correctly interpreted and confirmed with the relevant parties.

- 
- 2.3 Range of equipment, accessories and cables required to produce required lighting effects are determined and are prepared in accordance with manufacturer's specifications and industry codes of practice.
      - 2.4 Lighting equipment are selected that meet production requirements in terms of exposure and colour temperature and rendition.
      - 2.5 Filters, accessories or effects are selected for the production in order to achieve the required results.
      - 2.6 Equipment, control gear and distribution are rigged and installed with due regard to other equipment, participants, public and crew in terms of safety, security of equipment, accessibility and quality of operation.
      - 2.7 Lighting equipment are positioned taking into account their size, weight, and accessibility to the set and it is ensured that the equipment installed can produce the light quality required by production.
      - 2.8 Lanterns, accessories and other lighting elements are tested and lanterns are warmed as required.
    3. Carry out dress rehearsal requirements
      - 3.1 Technical aspects of the show are rehearsed and clearly communicated to performers at the appropriate time.
      - 3.2 Cues are rehearsed and executed on direction from the appropriate personnel.
      - 3.3 Back up systems are set up for use in the event of an equipment malfunction and tested to ensure that they are in working order.
  4. Operate lighting equipment
    - 4.1 Equipment, control desk and peripherals are powered up and are check for full functionality in accordance with manufacturer's specifications.
    - 4.2 Lighting equipment are operated accurately according to the instructions of the person responsible for the lighting, manufacturers' instructions and industry codes of practice.
    - 4.3 Lighting changes are executed on cue in accordance with the running sheet, directions of appropriate personnel and the requirements of the performance and/or venue.
    - 4.4 Lighting equipment are harmoniously and creatively operated when unanticipated events occur to maintain lighting production quality.

- 4.5 Continuity of lighting is maintained throughout the production and problems are resolved in accordance with established procedures.
- 4.6 Adjustment to controls and equipment are made as required to cater for unexpected contingencies and appropriate personnel are informed as required.
- 4.7 Problems are rectified safely, efficiently and in accordance with venue procedures and appropriate personnel are informed as required.
- 4.8 Documentation on changes to cues, modifications to lighting requirements and problems are completed as required.

## RANGE STATEMENT

This unit applies to activities associated with essential operations linked to operating basic lighting equipment.

Testing the control system covers:

- ensuring that all operational controls on the lighting board function properly
- ensuring that all dimmer channels are functioning properly
- ensuring that correct control protocols have been selected
- ensuring that correct dimmer profiles have been selected
- ensuring that correct intelligent light software is installed/selected
- ensuring that all peripherals are functioning properly
- ensuring that soft patch has been correctly configured
- ensuring that any riggers or designer controls are functioning properly
- ensuring that there is a valid DMX line/signal

Appropriate personnel may include:

- supervisor
- head of department
- designer
- director
- stage manager
- other specialist staff

Lighting elements may include:

- pracs
- electrical/electronic props
- special effects
- strobes
- mirrorballs and motors
- smoke machines
- fog machines
- ultraviolet light
- chasers
- oil and watercrackers
- effects projectors
- lanterns
- lamps
- dimmers

Lanterns may include:

- theatre-based units
- special effects units
- architectural fixtures

Test equipment may include:

- test lamps
- continuity tester
- analogue or digital multimeters
- DMX
- cable tester

Dimmers may include:

- analogue dimmers
- multiplexed digital dimmers
- multiplexed analogue dimmers
- single unit (follow spot) dimmers e.g. Model 1 or Monopak
- small self contained dimmable controllers e.g. Fourpack, Quadpak

Oral communication tasks may include:

- selective listening to identify and respond to relevant cues and modifications to cues
- communicating effectively with stage manager, lighting designer, head electrician, maintenance supervisor, follow spot operator and other relevant personnel
- clarifying, interpreting and following instruction
- problem solving
- verbal fault reports
- interpreting organisational and legislative occupational health and safety requirements

Material to be read and interpreted may include:

- cue sheets
- script
- focus notes
- running sheets
- lighting plan
- patch sheets
- equipment lists
- colour lists
- manuals

Lamps may include:

- incandescent
- discharge
- follow spots
- PAR (parabolic aluminized reflector)
- low voltage lamps

Operating test equipment will require:

- selection of the correct measurement (AC/DC, amperage, voltage, resistance)
- polarity (where relevant)
- range
- correct scale

Control desk peripherals may include:

- monitors
- printers
- external memory storage
- riggers controls
- desk lamps
- control cables effects units and backup units

Testing of lanterns, accessories and other lighting elements covers:

- ensuring that all equipment is patched correctly
- ensuring that all operational functions are working correctly
- ensuring that correct colour and accessories are fitted
- ensuring that all items that are controlled by the lighting desk are receiving data and are operating correctly

Material to be written may include:

- fault reports
- accident reports
- cue sheets and modifications to cue sheets (on paper or on screen)
- focus notes
- running sheets

Numeracy tasks may include:

- re-calculations of previous cues
- measurements
- using a scale rule

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to operate lighting in accordance with the performance criteria and the range listed within the range of variables statement.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate knowledge of the lighting operations, equipment and processes and the range of applications
- determine work requirements and plan and organise work to fulfill such requirements
- identify, select and use tools, equipment and material to complete tasks to specifications
- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- show compliance with organisational quality procedures and processes within the context of operating lighting equipment
- arrange lighting to requirement
- provide adequate back-up systems
- carry out rehearsals and pre-show checks
- changes and repairs are dealt with appropriately
- carry out proper documentation and reporting procedures
- equipment and accessories are set on standby between performances
- interactively communicate with others to ensure safe and effective operations

### (2) Pre-requisite Relationship of Units

The pre-requisite for this unit is:

- Nil

### (3) Underpinning Knowledge and Skills

#### Knowledge

Knowledge of:

- general lighting terms and how terms may vary between different systems or how different terms can refer to the same functions on different systems
- lighting control concepts used in various lighting systems
- main types of lanterns including profile, fresnel, PC, flood, and PAR lamps, their uses and operations (optical and mechanical) and accessories
- basic elements of lighting design
- problem-solving techniques and their application
- basic maintenance of lighting equipment
- various colour media used in lighting
- DMX protocols
- documentation and back-up systems used in conjunction with lighting control

## **Underpinning Knowledge and Skills (Cont'd)**

### Knowledge

Knowledge of: (Cont'd)

- aesthetics and visual appeal of lighting effects
- the general scope and potential of lighting operations within different live production contexts, e.g. theatre, music, corporate
- the relationship between lighting operations and other technical and performance areas, including audio, vision systems and performance
- typical roles and responsibilities of the lighting technicians in different context, including career paths
- lighting system options in a range of venue types
- specialised terminology that applies to lighting operations
- general features of lanterns and accessories, dimmers and control systems
- overview of different types of automated lights and the special requirements of this type of technology, including rigging orientation, powering, requirement for data supply and fixture addressing
- overview of appropriate use of standard pump propelled glycol-based atmospheric (smoke) effects
- organisational and legislative Occupational Health and Safety legislation in particular relation to lighting operations, e.g. electrical restrictions
- colour recognition
- requirements for storage of lighting equipment
- electrical wiring procedures
- lighting equipment handling and installation
- industry regulations and standards
- organisation policies and procedures

### Skills

The ability to:

- read and interpret technical information
- plan and organise work
- solve problems
- identify and operate equipment
- use and maintain tools and equipment
- install and handle equipment
- conduct test and interpret results
- identify and rectify faults
- accurately carry out all recording, reporting and documentation activities
- work safely
- work in compliance with policies and procedures
- read a scale ruler
- apply numeracy skills sufficient to make mathematical calculations necessary for the safe assembly, installation and testing of equipment
- apply literacy skills sufficient to interpret a lighting plan
- recognize colour
- understand and interpret a range of industry terminology and protocols
- communicate effectively with people from diverse cultural backgrounds
- perform complete simple mathematical calculations using a scale rule
- listen critically and discriminate aurally



**(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)
- request/work sheet
- relevant technical documentation, manuals and manufacturer's specifications
- logs and work reporting documentation
- a range of lighting equipment as identified in the Range Statement
- an environment in which lighting can be set up and operated
- a lighting plan from which the candidate is able to work
- a production and production venue
- relevant tools, equipment and materials
- enterprise policies and procedures
- legislative, statutory and Occupational Health and Safety requirements
- Industry standards and codes of practice

**(5) Method of Assessment**

Assessment may incorporate a range of methods to assess performance and the application of essential underpinning knowledge, and might include:

- direct observation of the candidate using techniques to install lighting equipment
- inspection of lighting equipment set up by the candidate to assess workability and safety issues
- oral or written questioning to assess knowledge of equipment, techniques and how to interpret a lighting plan
- review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate

Assessment methods should closely reflect workplace demands and the needs of particular groups (e.g. people with disabilities, and people who may have literacy or numeracy difficulties)

Simulated activities must closely reflect the workplace.

**(6) Context of Assessment**

This unit may be assessed on or off the job. Assessment should include practical demonstration either in the workplace or through a simulation. A range of methods to assess underpinning knowledge should support this.

### CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 2	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 2	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 2	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

## **ECELIG1062A: Repair and maintain basic lighting equipment**

Competency Descriptor:

This unit deals with the skills and knowledge required to repair and maintain basic lighting equipment.

Competency Field: Lighting Operations

<b>ELEMENT OF COMPETENCY</b>		<b>PERFORMANCE CRITERIA</b>	
1.	Repair lighting equipment	1.1	Faults in lighting equipment are diagnosed and isolated using fault detection procedures in accordance with manufacturer's specifications.
		1.2	Labels are written and attached to faulty equipment in accordance with organisational procedures.
		1.3	Faulty equipment is dismantled, repaired and reassembled in accordance with safety requirements and manufacturer's instructions.
		1.4	Complex repairs are referred to technical specialists as required in consultation with supervisor or other appropriate personnel.
		1.5	All repairs are documented according to organisational procedures and reported to the appropriate personnel.
2.	Maintain lighting equipment	2.1	Lighting equipment is maintained in accordance with organisational requirements and maintenance instructions.
		2.2	Cables and accessories are maintained in accordance with organisational requirements and maintenance instructions.
		2.3	Spares and consumables are checked and replaced and records maintained as required.
		2.4	Equipment safety checks are conducted in compliance with the relevant industry and national standards.
		2.5	Maintenance is documented in accordance with organisational procedures.

## RANGE STATEMENT

This unit applies to activities associated with essential operations linked to repairing and maintaining basic lighting equipment.

Maintenance of lanterns may include:

- cleaning exteriors and interiors of lanterns, lenses, reflector assembly, lantern accessories
- checking that all cables are in good condition with insulation intact, that cable restraining glands are in working order and that plug tops are correctly fitted
- checking that all focus knobs are fitted and that focus mechanism works freely
- checking that PAR lamps may be rotated to allow for focus
- checking that colour runners are in good condition
- checking that locking knobs and clamping mechanisms are in good order to allow proper tilting of lanterns
- checking that suspension bolts and fastenings are in good order to allow proper panning of lanterns
- checking that hook clamps, or other rigging accessories, are securely fitted and are in full working order
- checking that shutters and barn doors are in good working condition
- checking that safety chain is fitted and in working order
- checking that reference scales are consistent on identical lanterns
- checking that lamp base is in good working order
- checking that the correct lamp is fitted and in working order
- checking lamp alignment
- checking light leakage from lantern
- checking continuity of all power and data cables

Lighting equipment may include:

- accessories
- control desks
- dimmers
- other lighting elements

Repairs may include:

- replacing faulty globes in lanterns, work lights, emergency lights, dressing rooms and other areas of the venue
- replacing defective colour
- replacing blown fuses in dimmers
- replacing faulty dimmer cards
- replacing faulty control desk faders and push button switches
- replacing faulty control desk cards or modules
- calling in of specialist service technicians or returning equipment and circuit boards to specialists for repair

Maintenance on special effects may include:

- cleaning equipment
- replacing consumables
- checking control cables, fans and hoses

Electrical maintenance may include:

- checking that jug plugs or other connectors are in good working order
- checking that internal wiring is correctly connected and in good condition
- checking continuity of earth
- checking continuity of circuit from plug top to lamp
- checking that there is no connection between earth and either neutral or active

Maintenance of control desks includes:

- cleaning surface of control desk and peripherals
- cleaning faders, push-button switches
- checking that all connectors are in good order
- checking operation of desk and peripherals
- modifications to operator position
- checking and cleaning disk drive/ backup system

Appropriate personnel for referral may include:

- supervisor
- head of department
- designer
- director
- stage manager
- specialist staff

Maintenance of dimmers includes:

- trimming top and bottom settings as required (analogue dimmers only)
- checking connectors
- checking socket outlets (if fitted)
- adjusting dimmer curve in digital dimmers

Material to be read and interpreted may include:

- lists of faults
- operating manuals and maintenance instructions
- design specifications

Documentation and reporting may include:

- listing of faults
- written reports
- verbal reports

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to repair and maintain basic lighting equipment in accordance with the performance criteria and the range listed within the range of variables statement.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- show compliance with organisational quality procedures and processes within the context of repairing and maintaining lighting equipment
- accurate diagnosis of faults
- adopt safe and effective procedures to dismantle, repair and reassemble lighting equipment
- select and use appropriate procedures, tools and equipment
- adherence to appropriate maintenance procedures
- refer repairs outside scope of responsibility to appropriate personnel
- carry out proper documentation and reporting procedures
- complete repairs and maintenance operations to specification
- interactively communicate with others to ensure safe and effective repair and maintenance tasks

### (2) Pre-requisite Relationship of Units

The pre-requisite for this unit is:

- Nil

### (3) Underpinning Knowledge and Skills

#### Knowledge

Knowledge of:

- spare parts and sub-assemblies used in equipment repair/maintenance
- the effects of dirty lenses and reflectors and faulty and misaligned lamp holders
- fault detection and diagnosis skills
- typical equipment and wiring faults
- common repair and maintenance requirements
- electronic and electrical principles
- repair and maintenance procedures and techniques
- effects of bad ventilation: reflector degradation and breakdown of cable insulation
- electrical measurements including voltage, current resistance, power insulation and circuit continuity, having regard to magnitude, AC or DC and circuit state (energised or de-energised)
- rules for DMX signal distribution and other communications protocols such as Ethernet
- the general scope and potential of lighting operations within different live production contexts, e.g. theatre, music, corporate
- the relationship between lighting operations and other technical and performance areas, including audio, vision systems and performance
- typical roles and responsibilities of the lighting technicians in different context
- lighting system options in a range of venue types
- specialised terminology that applies to lighting operations
- overview of different types of automated lights and the special requirements of this type of technology, including rigging orientation, powering, requirement for data supply and fixture addressing
- organisation policies and procedures
- industry regulations, standards and best practices
- drawings and specifications
- portable power tools
- repair and maintenance tools, materials and equipment
- materials/components preparation and handling
- developing a work plan
- equipment disassembling and assembling requirements and processes
- workplace communications
- organisational and legislative Occupational Health and Safety legislation

## **Underpinning Knowledge and Skills (Cont'd)**

### Skills

The ability to:

- dismantle, repair and reassemble equipment
- make extension leads as permitted by national regulations
- read and interpret documentation and manuals
- accurately and concisely summarise and convey information orally and/or in writing
- work safely
- organise work
- use appropriate tools and equipment

## **(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)
- request/work sheet
- relevant technical documentation, manuals and manufacturer's specifications
- logs and work reporting documentation
- a range of a range of lighting equipment and elements
- repair and maintenance tools , equipment and materials
- enterprise policies and procedures
- legislative, statutory and Occupational Health and Safety requirements
- Industry standards and codes of practice

## **(5) Method of Assessment**

Assessment may incorporate a range of methods to assess performance and the application of essential underpinning knowledge, and might include:

- direct observation of the candidate completing maintenance and repair work on a range of lighting equipment and elements
- evaluation of equipment which has been repaired and maintained by the candidate
- oral or written questioning to assess knowledge of lighting activities relating to lighting equipment and elements repair and maintenance
- review of portfolios of evidence or third party workplace reports of on-the-job performance by the candidate
- practical demonstration of skills through the completion of a range of repair and maintenance activities
- project or work activities that allow knowledge to be applied to specific production contexts and situations

Assessment should be conducted over time and will generally be in conjunction with assessment of other units of competency.

Simulated activities must closely reflect the workplace.

**(6) Context of Assessment**

Assessment may take place on the job, off the job or a combination of both of these. However, assessment of this unit would most effectively be undertaken on the job due to the specific workplace environment requirements. Off the job assessment must be undertaken in a closely simulated workplace environment.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 2	
Communicate ideas and information	Level 2	
Plan and organise activities	Level 2	
Work with others and in team	Level 2	
Use mathematical ideas and techniques	Level 2	
Solve problems	Level 2	
Use technology	Level 2	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.



## ECELIG1072A: Prepare, install and monitor basic lighting equipment

### Competency Descriptor:

This unit deals the skills and knowledge required to determine lighting requirements from established plans, and to prepare and install lighting basic equipment to meet those requirements.

Competency Field: Lighting Operations

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Determine production requirements for lighting	1.1	Lighting documentation is correctly interpreted and consultations are held with appropriate personnel to confirm requirements.
		1.2	Power requirements are accurately calculated and power sources and locations are identified and confirmed that they will meet production requirements.
		1.3	Patching, colour and focus requirements are correctly identified.
		1.4	The need for additional equipment or materials identified and timely acquisition organised in accordance with organisational procedures.
2.	Prepare lighting equipment for installation	2.1	Colour, equipment and accessories are prepared and assembled in readiness for installation and/or transportation when required.
		2.2	Lighting equipment is pre-rigged as required in accordance with safety and licensing requirements.
		2.3	Extension leads, looms and cables are prepared and/or rolled to meet design specifications, organisation standards and legal requirements.
3.	Install lighting	3.1	Lanterns are tested, installed and hung and accessories fitted in accordance with the lighting plan, scale and manufacturers specifications.
		3.2	Power supplies are installed in accordance with the lighting plan, location standards, manufacturer's specifications and safety regulations.
		3.3	Lanterns are patched in accordance with the lighting or patch plan.
		3.4	Rated cabling is labelled correctly and is safely and neatly secured so that it is clear of moving elements.

- |    |                                 |   |
|----|---------------------------------|---|
|    | 3.5                             | Lanterns are angled and focussed in accordance with the lighting plan and artistic requirements.  |
|    | 3.6                             | The safety of all equipment is checked both during and after installation in accordance with legal requirements.  |
| 4. | Install lighting control system |   |
|    | 4.1                             | Dimmers are correctly connected to power source, correctly assigned and turned on.  |
|    | 4.2                             | Control desk and peripherals are installed and configured in accordance with production requirements.   |
|    | 4.3                             | Control cables are installed and connected and safely secured.  |
|    | 4.4                             | Lanterns and channels to are patched to dimmers in accordance with the lighting plan or patch plan sheets and location procedures/conditions.                         |
| 5. | Ensure electrical safety        |   |
|    | 5.1                             | All installation and testing are completed in accordance with legislative and Occupational Health and Safety requirements.  |
|    | 5.2                             | Three-phase distribution and power calculations are accurately check.   |
|    | 5.3                             | Procedures are correctly followed to check that power supply is sufficient for load requirements and that distribution of electrical loading is within limits.        |
|    | 5.4                             | Cables used are correctly rated, including three-phase cable to dimmers and that three-phase supplies are balanced.   |
|    | 5.5                             | All cabling and connectors used meet legislative, regulatory and Occupational Health and Safety requirements.   |
| 6. | Monitor and adjust lighting     |   |
|    | 6.1                             | All aspects of lighting including control and communications system are tested and monitored using appropriate techniques and in accordance with safety requirements. |
|    | 6.2                             | The need for adjustments is identified and modifications are made accordingly.  |

- 6.3 Appropriate personnel are liaised with to confirm that lighting installation meets requirements.
- 6.4 Documentation is accurately, legibly and concisely completed and accurate updates made as required.

## RANGE STATEMENT

The following explanations identify how this unit may be applied in different workplaces, sectors and circumstances.

Rigging and rigging accessories may include:

- safety chains
- hook clamps
- boom arms
- spigots
- telescopic stands
- H stands
- winch-up stands
- mobile booms
- T bars
- scaffold clamps
- truss
- span sets, slings, shackles
- chain blocks/motors and other rigging equipment installed by a licensed rigger

Appropriate personnel may include:

- other technicians
- colleagues from other specialist areas
- supervisors managers
- artistic and creative personnel, e.g. lighting designer, director
- production team
- external suppliers

Lanterns may include:

- theatre-based units
- studio and location based units
- special effects units
- architectural fixtures
- digital moving ('intelligent' lights)

Lantern accessories may include:

Lighting documentation may include:

- full equipment schedule
- power requirements
- equipment instructions and/or manufacturer instructions
- building specifications
- colour cutting schedules
- hire or loan contracts

Testing the control system must include ensuring:

- correct control protocols have been selected
- correct dimmer profiles have been selected
- correct automated light software is installed/selected
- any riggers or designer controls are functioning properly

Lamps used in this context may include:

- incandescent, e.g. tungsten halogen
- discharge
- PAR (parabolic aluminized reflector)
- low voltage lamps

Lantern accessories must include:

- manually operated colour changers
- irises
- colour scrollers
- animation discs
- gobo rotators and other effects accessories

Other lighting elements may include:

- pracs
- electrical/electronic props
- special effects, e.g. strobes, mirror balls and motors, smoke machines, fog machines, ultraviolet light, oil and water crackers, effects projectors

Control desk peripherals may include:

- monitors
- printers
- external memory storage, e.g. memory card or floppy disk
- riggers controls
- desk lamps
- control cables effects units and backup units
- effects units
- back-up units
- additional control modules, e.g. fader wings

Testing of lanterns, accessories and other lighting elements must include ensuring that:

- all equipment is patched correctly
- all operational functions are working correctly
- correct colour and accessories are fitted
- all items that are controlled by the lighting desk are receiving data and are operating correctly

Testing the control system must include ensuring that:

- all operational controls on the lighting board function properly
- all dimmer channels are functioning properly
- all peripherals are functioning properly
- soft patch has been correctly configured
- there is a valid DMX line/signal

- profile shutters
- gobo holders
- fresnel/pc barn doors
- colour frames

Control desks may include:

- manual desks
- manual/memory desks ('rock' desks)
- push button memory desks ('theatre' desks)
- moving light desks

Dimmers may include:

- analogue dimmers
- multiplexed digital dimmers
- multiplexed analogue dimmers
- single unit (follow spot) dimmers, e.g. Model 1 or Monopak
- small self-contained dimmable controllers, e.g. Fourpack, Quadpak

Test equipment may include:

- test lamps
- continuity tester
- analogue or digital multimeters
- DMX, cable tester

Lighting documentation must include:

- lighting plan
- packing, transport or equipment lists
- patch sheets

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to prepare, install and monitor basic lighting equipment in accordance with the performance criteria and the range listed within the range of variables statement.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate knowledge of the lighting operations, equipment and processes and the range of applications
- determine work requirements and plan and organise work to fulfill such requirements
- identify, select and use tools, equipment and material to complete tasks to specifications
- recognition of lighting equipment and accessories, including key features and purpose
- set up and operate use of industry-current lighting equipment and accessories safely
- ability to apply a range of technical lighting knowledge and manual techniques to the installation of lighting equipment so that the lighting set up meets the production and safety requirements
- handle material and equipment safely
- identify problems promptly and handle them as directed
- completion of lighting-related tasks in accordance with health and safety procedures
- perform testing and quality checks
- completion of tasks within typical workplace time constraints
- practical demonstration of skills through the installation and testing of lighting equipment for an actual production
- source, interpret and apply technical information to work activities
- involvement of and interaction with a team to reflect the collaborative nature of the technical production process
- compliance with relevant Occupational Health and Safety requirements and industry standards
- perform all task in accordance with standard operating procedures, quality requirements and enterprise policies and procedures

## **(2) Pre-requisite Relationship of Units**

The pre-requisite for this unit is:

- Nil

## **(3) Underpinning Knowledge and Skills**

Knowledge  
Knowledge of:

- safety regulations that affect the installation of lighting equipment and working with power, including occupational, health and safety legislation

- the different types of hardware used for lighting installation, e.g. screws, nuts, bolts
- the types of lanterns, lighting systems, control systems, and lighting accessories available in the marketplace and their relevance to different types of production
- the range of colour gels available and the way in which different colours are used in lighting, including the relationship between colour and light
- techniques for rigging and hanging lighting equipment within licencing requirements
- the format of a lighting plan and the meaning of its different components, including an understanding of scale, position and orientation
- the general scope and potential of lighting operations within different live production contexts, e.g. theatre, music, corporate
- the relationship between lighting operations and other technical and performance areas, including audio, vision systems and performance
- typical roles and responsibilities of the lighting technicians in different context, including career paths
- lighting system options in a range of venue types
- specialised terminology that applies to lighting operations
- general features of lanterns and accessories, dimmers and control systems
- overview of different types of automated lights and the special requirements of this type of technology, including rigging orientation, powering, requirement for data supply and fixture addressing
- overview of appropriate use of standard pump propelled glycol-based atmospheric (smoke) effects
- organisational and legislative Occupational Health and Safety legislation in particular relation to lighting operations, e.g. electrical restrictions
- colour recognition
- requirements for storage of lighting equipment
- electrical wiring procedures
- lighting equipment handling and installation
- industry regulations and standards
- organisation policies and procedures

#### Skills

The ability to:

- read and interpret technical information
- plan and organise work
- solve problems
- identify and operate equipment
- use and maintain tools and equipment
- install and handle equipment
- conduct test and interpret results
- identify and rectify faults

#### Skills

The ability to: (Cont'd)

- communicate effectively
- accurately carry out all recording, reporting and documentation activities
- work safely
- work in compliance with policies and procedures
- read a scale ruler

- apply numeracy skills sufficient to make mathematical calculations necessary for the safe assembly, installation and testing of equipment
- apply literacy skills sufficient to interpret a lighting plan

#### **(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)
- request/work sheet
- relevant technical documentation, manuals and manufacturer's specifications
- logs and work reporting documentation
- a range of lighting equipment as identified in the Range Statement
- an environment in which lighting can be set up and operated
- a lighting plan from which the candidate is able to work
- a production and production venue
- relevant tools, equipment and materials
- enterprise policies and procedures
- legislative, statutory and Occupational Health and Safety requirements
- Industry standards and codes of practice

#### **(5) Method of Assessment**

Assessment may incorporate a range of methods to assess performance and the application of essential underpinning knowledge, and might include:

- direct observation of the candidate using techniques to install lighting
- inspection of lighting equipment set up by the candidate to assess workability and safety issues
- oral or written questioning to assess knowledge of equipment, techniques and the fundamental principles involved in lighting operations
- review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate

Assessment methods should closely reflect workplace demands and the needs of particular groups (e.g. people with disabilities, and people who may have literacy or numeracy difficulties such as speakers of languages other than English, remote communities and those with interrupted schooling).

#### **(6) Context of Assessment**

Assessment may take place on the job, off the job or a combination of both of these. However, assessment of this unit would most effectively be undertaken on the job due to the specific workplace environment requirements. Off the job assessment must be undertaken in a closely simulated workplace environment.

## **CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 2	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 2	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 2	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.



## ECELIG1082A: Rig and position basic lighting equipment

Competency Descriptor:

This unit deals the skills and knowledge required to determine rigging requirements for lighting from established plans and to prepare and rig lighting basic equipment to meet production requirements.

Competency Field: Lighting Operations

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Determine rigging requirements for lighting	1.1	Lighting documentation is correctly interpreted and consultations are held with appropriate personnel to confirm requirements.
		1.2	Equipment and accessories and height requirements are accurately determined and confirmed with appropriate personnel
		1.3	Quantity and characteristics of rigging components are determined with regards to total load, accessibility, positioning and safety requirements.
		1.4	Access, obstructions and other hazards are assessed and appropriate action is taken to remove/reduce risks.
		1.5	Safety signs and warnings are erected in accordance with organizational procedures.
		1.6	Load dimensions and centre of gravity of load are established in accordance with slinging requirements.
		1.7	Appropriate safe working loads for lifting equipment are calculated.
		1.8	Slings, tackle, hoists and accessories are selected according to the needs of lift and safe working capacities of equipment.
		1.9	Lifting/moving gear is inspected and damaged/worn items are identified, labelled and rejected in accordance with organisational procedures.
2.	Prepare for rigging	2.1	Lighting equipment is tested and pre-rigged as required in accordance with safety and licensing requirements.
		2.2	Components of lighting support are inspected and damaged sections are replaced.
		2.3	Components of lighting support are assembled in accordance with manufacturer's specifications.

- |    |  |      |  |
|----|--|------|--|
| 3. | Build truss/bars   | 3.1  | Equipment to be rigged is prepared and attached according to requirements.   |
|    |  | 3.2  | Truss/bars are joined in accordance with manufacturer's specifications.  |
|    |  | 3.3  | Anchorage points are identified/located/established in accordance with requirements and equipment manufacturer's specifications.   |
|    |  | 3.4  | Lighting equipment is safely slung/connected and packing installed/secured to protect sling and load.  |
|    |  | 3.5  | All power and control cables are strapped and connected to the lighting equipment in accordance with manufacturer's specifications and lighting requirements.  |
|    |  | 3.6  | Load is safely raised to working height.   |
|    |  | 3.7  | Rigging equipment attached to truss/bar is checked for safety and any adjustment are referred to the appropriate personnel.  |
| 4. | Raise truss/bar and secure and position lighting equipment | 4.1  | Lighting equipment is safely raised in accordance with organisational procedures and using appropriate signals.  |
|    |  | 4.2  | Stability of lighting equipment is maintained throughout the raising process.  |
|    |  | 4.3  | Lighting equipment is secured and hung in position.  |
|    |  | 4.4  | Equipment, control gear and distribution are rigged and installed with due regard to other equipment, participants, public and crew in terms of safety, security of equipment, accessibility and quality of operation. |
|    |  | 4.5  | Lighting equipment is positioned to meet the desired aesthetic and technical requirements of the production.   |
|    |  | 4.6  | Appropriate personnel are liaised with to confirm that lighting installation meets requirements.   |
|    |  | 4.7  | Lifting equipment that is no longer required is removed.   |
|    |  | 4.8  | Workplace is cleared of rigging equipment to ensure that it is safe for others to use.   |
|    |  | 4.9  | Lanterns are angled and focussed in accordance with the lighting plan and artistic requirements.   |
|    |  | 4.10 | The safety of all equipment is checked both during and   |

after installation in accordance with legal requirements.

## RANGE STATEMENT

The following explanations identify how this unit may be applied in different workplaces, sectors and circumstances.

Appropriate personnel may include:

- other technicians
- colleagues from other specialist areas
- supervisors managers
- artistic and creative personnel, e.g. lighting designer, director
- production team
- external suppliers

Lighting documentation may include:

- full equipment schedule
- power requirements
- equipment instructions and/or manufacturer instructions
- building specifications
- colour cutting schedules
- hire or loan contracts

Rigging and rigging accessories may include:

- safety chains
- hook clamps
- boom arms
- spigots
- telescopic stands
- H stands
- winch-up stands
- mobile booms
- T bars
- scaffold clamps
- truss
- span sets, slings, shackles
- chain blocks/motors and other rigging equipment installed by a licensed rigger

Control desk peripherals may include:

- monitors
- printers
- external memory storage, e.g. memory card or floppy disk
- riggers controls
- desk lamps
- control cables effects units and backup units
- effects units
- back-up units
- additional control modules, e.g. fader wings

Lighting equipment may include:

- effects projectors
- lanterns
- lamps
- dimmers
- pracs
- electrical/electronic props
- special effects

Dimmers may include:

- analogue dimmers
- multiplexed digital dimmers
- multiplexed analogue dimmers
- single unit (follow spot) dimmers, e.g. Model 1 or Monopak
- small self-contained dimmable controllers, e.g. Fourpack, Quadpak

Other lighting elements may include:

- pracs
- electrical/electronic props
- special effects, e.g. strobes, mirror balls and motors, smoke machines, fog machines,

Lantern accessories may include:

- manually operated colour changers
- irises
- colour scrollers
- animation discs

ultraviolet light, oil and water crackers, effects projectors

- gobo rotators and other effects accessories

Lantern accessories may include:

- profile shutters
- gobo holders
- fresnel/pc barn doors
- colour frames

Control desks may include:

- manual desks
- manual/memory desks ('rock' desks)
- push button memory desks ('theatre' desks)
- moving light desks

Testing the control system must include ensuring that:

- all operational controls on the lighting board function properly
- all dimmer channels are functioning properly
- all peripherals are functioning properly
- soft patch has been correctly configured
- there is a valid DMX line/signal

Testing of lanterns, accessories and other lighting elements must include ensuring that:

- all equipment is patched correctly
- all operational functions are working correctly
- correct colour and accessories are fitted
- all items that are controlled by the lighting desk are receiving data and are operating correctly

Testing the control system must include ensuring:

- correct control protocols have been selected
- correct dimmer profiles have been selected
- correct automated light software is installed/selected
- any riggers or designer controls are functioning properly

Test equipment may include:

- test lamps
- continuity tester
- analogue or digital multimeters
- DMX, cable tester

Lighting documentation may include:

- lighting plan
- packing, transport or equipment lists
- patch sheets

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to prepare, install and monitor basic lighting equipment in accordance with the performance criteria and the range listed within the range of variables statement.

**(1) Critical Aspects of Evidence**

It is essential that competence be observed in the following aspects:

- demonstrate knowledge of the rigging and lighting operations, equipment and processes and the range of applications
- determine work requirements and plan and organise work to fulfill such requirements
- identify, select and use tools, equipment and material to complete tasks to specifications
- recognition of rigging and lighting equipment and accessories, including key features and purpose
- set up and operate use of industry-current rigging and lighting equipment and accessories safely
- ability to apply a range of technical lighting knowledge and manual techniques to the rigging of lighting equipment so that the lighting set up meets the production and safety requirements
- handle material and equipment safely
- identify problems promptly and handle them as directed
- completion of lighting-related tasks in accordance with health and safety procedures
- perform testing and quality checks
- completion of tasks within typical workplace time constraints
- practical demonstration of skills through the rigging, installation and testing of lighting equipment for an actual production
- source, interpret and apply technical information to work activities
- involvement of and interaction with a team to reflect the collaborative nature of the technical production process
- compliance with relevant Occupational Health and Safety requirements and industry standards
- perform all task in accordance with standard operating procedures, quality requirements and enterprise policies and procedures

**(2) Pre-requisite Relationship of Units**

The pre-requisite for this unit is:

- Nil

**(3) Underpinning Knowledge and Skills****Knowledge**

Knowledge of:

- safety regulations that affect the installation of lighting equipment and working with power, including occupational, health and safety legislation
- the different types of hardware used for lighting installation, e.g. screws, nuts, bolts
- the types of lanterns, lighting systems, control systems, and lighting accessories available in the marketplace and their relevance to different types of production
- the range of colour gels available and the way in which different colours are used in lighting, including the relationship between colour and light

## Underpinning Knowledge and Skills (Cont'd)

### Knowledge

Knowledge of:

- techniques for rigging and hanging lighting equipment within licencing requirements
- the format of a lighting plan and the meaning of its different components, including an understanding of scale, position and orientation
- the general scope and potential of lighting operations within different live production contexts, e.g. theatre, music, corporate
- the relationship between lighting operations and other technical and performance areas, including audio, vision systems and performance
- typical roles and responsibilities of the lighting technicians in different context, including career paths
- lighting system options in a range of venue types
- specialised terminology that applies to lighting operations
- general features of lanterns and accessories, dimmers and control systems
- overview of different types of automated lights and the special requirements of this type of technology, including rigging orientation, powering, requirement for data supply and fixture addressing
- overview of appropriate use of standard pump propelled glycol-based atmospheric (smoke) effects
- organisational and legislative Occupational Health and Safety legislation in particular relation to lighting operations, e.g. electrical restrictions
- rigging gear and equipment
- design and function of lifting gear
- safe working loads and how they are calculated
- applying a range of rigging techniques as applied to specific equipment used in the workplace
- appropriate personal protective equipment
- colour recognition
- requirements for storage of lighting equipment
- electrical wiring procedures
- lighting equipment handling and installation
- industry regulations and standards
- organisation policies and procedures

### Skills

The ability to:

- read and interpret technical information
- plan and organise work
- solve problems
- select and rig equipment
- use rigging gear and equipment
- conduct test and interpret results
- identify and rectify faults
- communicate effectively
- accurately carry out all recording, reporting and documentation activities
- work safely
- work in compliance with policies and procedures

- apply methods of signalling
- organisational procedures with regard to rigging
- using hand and power tools
- knowledge of effective communication techniques including active listening, questioning and non-verbal communication
- apply literacy skills sufficient to interpret a lighting plan

#### **(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)
- request/work sheet
- relevant technical documentation, manuals and manufacturer's specifications
- logs and work reporting documentation
- a range of lighting equipment as identified in the Range Statement
- an environment in which lighting can be rigged and positioned
- appropriate rigging gear and equipment
- a lighting plan from which the candidate is able to work
- a production and production venue
- relevant tools, equipment and materials
- enterprise policies and procedures
- legislative, statutory and Occupational Health and Safety requirements
- Industry standards and codes of practice

#### **(5) Method of Assessment**

Assessment may incorporate a range of methods to assess performance and the application of essential underpinning knowledge, and might include:

- direct observation of the candidate rigging and positioning lighting equipment
- inspection of lighting equipment set up by the candidate to assess workability and safety issues
- oral or written questioning to assess knowledge of the operations involved in rigging and positioning of lighting equipment
- review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate

Assessment methods should closely reflect workplace demands and the needs of particular groups (e.g. people with disabilities, and people who may have literacy or numeracy difficulties).

**(6) Context of Assessment**

Assessment may take place on the job, off the job or a combination of both of these. However, assessment of this unit would most effectively be undertaken on the job due to the specific workplace environment requirements. Off the job assessment must be undertaken in a closely simulated workplace environment.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 2	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 2	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 2	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.



## **ECELIG1092A: Disconnect, clean and store lighting equipment**

Competency Descriptor:

This unit deals with the skills and knowledge required to disconnect, clean and store lighting equipment.

Competency Field: Lighting Operations

### **ELEMENT OF COMPETENCY PERFORMANCE CRITERIA**

1. Plan and prepare for work	1.1	Lighting equipment to be disconnected, cleaned and stored are correctly identified from relevant work instructions or appropriate personnel.
	1.2	Correct methods for disconnecting, cleaning and storing Lighting equipment are determined according to enterprise policies and procedures and appropriate sources/documents.
	1.3	Work is planned and prepared to ensure that all safety policies and procedures are followed and the work is appropriately sequenced in accordance with requirements.
	1.4	Appropriate personnel are consulted to ensure the work is coordinated effectively with others involved on the work site.
	1.5	Storage site is prepared/inspected and packaging/protective components are obtained according to requirements.
	1.6	Materials necessary to complete the work are obtained in accordance with established procedures and checked against job requirements.
	1.7	Tools, equipment and lifting devices needed to carry out the work are obtained in accordance with established procedures and checked for correct operation and safety.
	1.8	Appropriate procedures are followed to verify that all power has been disconnected before proceeding to disconnect equipment as required.
2. Disconnect equipment	2.1	Lighting equipment are correctly identified and all cables and attachments are noted.
	2.2	Circuits and equipment are checked as being isolated where necessary using specified testing procedures.
	2.3	Lighting equipment are disconnected, inspected for

- damage and carefully set aside for cleaning.
- 2.4 Disconnection is carried out in compliance with manufacturer specifications and established industry guidelines and standards.
  - 2.5 Cables and attachments are properly disconnected, rolled, stacked and stored according to industry regulations/guidelines, OH&S guidelines and enterprise procedures/policies.
  - 2.6 Unplanned events or conditions are responded to in accordance with established procedures.
  - 2.7 Approval is obtained in accordance with established procedures from appropriate personnel before any contingencies are implemented.
  - 2.8 On-going checks of the quality of the work are undertaken in accordance with established procedures.
3. Clean equipment and prepare equipment for storage
- 3.1 Correct cleaning procedure is determined from manufacturer specifications and/or in accordance with enterprise policies and procedures.
  - 3.2 Equipment and sub-component parts are cleaned using correct procedures, materials, tools and equipment.
  - 3.4 Equipment is placed in relevant packaging/protective component in accordance with manufacturer's instructions and enterprise policies and procedures.
4. Store equipment
- 4.1 Storage area is prepared for lighting equipment in accordance with manufacturer's instructions and enterprise policies and procedures.
  - 4.2 Equipment is safely handled and potential hazards are removed from storage area.
  - 4.3 Manual handling procedures are followed according to enterprise practices and procedures and Occupational Health and Safety requirements.
  - 4.4 Equipment is safely stored in required storage area in accordance with manufacturer's instructions and enterprise policies and procedures.
  - 4.5 Relevant documentation is completed in accordance with enterprise policies and procedures.

## RANGE STATEMENT

This unit applies to activities associated with essential operations linked to disconnecting, cleaning and storing lighting equipment.

Lighting elements may include:

- pracs
- electrical/electronic props
- special effects
- strobes
- mirrorballs and motors
- smoke machines
- fog machines
- ultraviolet light
- chasers
- oil and watercrackers
- effects projectors
- lanterns
- lamps
- dimmers

Dimmers may include:

- analogue dimmers
- multiplexed digital dimmers
- multiplexed analogue dimmers
- single unit (follow spot) dimmers e.g. Model 1 or Monopak
- small self contained dimmable controllers e.g. Fourpack, Quadpak

Lamps may include:

- incandescent
- discharge
- follow spots
- PAR
- low voltage lamps

Work activities include:

- dismantling/assembling
- cleaning
- measuring against specifications
- visual inspection
- comparing against new
- comparing against specifications

Types of production may include:

- concerts
- parties
- feature films
- documentaries
- short films
- animated productions
- commercials
- music video
- television productions of any type (e.g. music, drama, comedy, variety, sport)
- live or pre-recorded television productions

Appropriate personnel may include:

- supervisor
- head of department
- designer
- director
- stage manager
- other specialist staff

Lanterns may include:

- theatre-based units
- special effects units
- architectural fixtures

Sources of information/documents may include:

- manufacturer specifications
- company operating procedures
- industry/workplace codes of practice
- industry best practices
- customer requirements

Sub-components parts may include:

- circuit boards
- fuses
- cables
- lens
- controls
- riggings
- lamps
- monitors
- peripherals

Condition and availability of storage area may include consideration of:

- dampness
- humidity
- light
- fading
- archival values
- cost
- access to storage facility

Materials for storage may include:

- acid free interleaving or wrapping
- protective wrapping (bubble wrap, cardboard)
- protective enclosure (canisters, tubing, boxes)
- negative sleeves
- folders
- enclosures
- compact disc cases

Enterprise procedures and practices may relate to:

- safety
- process-specific procedures
- use of materials
- recycling
- cost control
- reporting

Tools and material may include:

- hand tools
- power tools
- special equipment
- measuring equipment
- lifting equipment
- cleaning equipment
- parts washers
- chemical cleaning equipment

Work ready to be stored may involve consideration of:

- cleanliness
- completion of process(es)
- identification of damage (and its rectification and stabilisation)
- elements of work missing

Inspection of storage site may involve determination of:

- number, quantity and size of equipment
- storage shelves
- conditions
- available space
- accessibility
- workplace procedures, e.g. safety, process procedures, use of materials, recycling, cost control, reporting

Occupational Health and Safety standards and guidelines may include:

- material handling guidelines
- guidelines for the use of equipment
- lifting and handling procedures
- legislative guidelines

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to disconnect, clean and store lighting equipment in accordance with the performance criteria and the range listed within the range of variables statement.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate knowledge of the lighting equipment and associated disconnection, storage and cleaning requirements
- determine work requirements and plan and organise work to fulfill such requirements
- identify, select and use tools, equipment and material to complete tasks to specifications
- disconnect equipment and cables safely and in accordance with specifications
- handle material and equipment safely
- identify problems promptly and handle them as directed
- prepare equipment and storage site
- complete cleaning and storage related tasks in accordance with health and safety procedures
- perform inspection and quality checks
- source, interpret and apply technical information to work activities
- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- show compliance with organisational quality procedures and processes within the context of disconnecting, cleaning and storing lighting equipment
- interactively communicate with others to ensure safe and effective operations

### (2) Pre-requisite Relationship of Units

The pre-requisite for this unit is:

- Nil

### (3) Underpinning Knowledge and Skills

#### Knowledge

Knowledge of:

- general lighting terms and how terms may vary between different systems or how different terms can refer to the same functions on different systems
- lighting control concepts used in various lighting systems
- main types of lanterns including profile, fresnel, PC, flood, and PAR lamps), their uses and operations (optical and mechanical) and accessories
- basic elements of lighting design
- problem-solving techniques and their application
- basic maintenance of lighting equipment
- cables associated with lighting operations

### Knowledge

Knowledge of: (Cont'd)

- the general scope and potential of lighting operations within different live production contexts, e.g. theatre, music, corporate
- the relationship between lighting operations and other technical and performance areas, including audio, vision systems and performance
- typical roles and responsibilities of the lighting technicians in different context, including career paths
- lighting system options in a range of venue types
- specialised terminology that applies to lighting operations
- general features of lanterns and accessories, dimmers and control systems
- overview of different types of automated lights and the special requirements of this type of technology, including rigging orientation, powering, requirement for data supply and fixture addressing
- overview of appropriate use of standard pump propelled glycol-based atmospheric (smoke) effects
- organisational and legislative Occupational Health and Safety legislation in particular relation to lighting operations, e.g. electrical restrictions
- disconnection and cleaning of lighting equipment
- relevant tools, equipment and protective components
- requirements for storage of lighting equipment
- electrical hazards
- cleaning materials
- lighting equipment handling and associated risks
- industry regulations and standards
- organisation policies and procedures

### Skills

The ability to:

- read and interpret technical information
- plan and organise work
- solve problems
- identify and isolate equipment
- use and maintain tools and equipment
- disconnect and clean equipment
- prepare and store lighting equipment
- identify and rectify faults
- accurately carry out all recording, reporting and documentation activities
- work safely
- work in compliance with policies and procedures
- understand and interpret a range of industry terminology and protocols
- communicate effectively with people from diverse cultural backgrounds
- perform complete simple mathematical calculations using a scale rule
- listen critically and discriminate aurally

## **(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)
- request/work sheet
- relevant technical documentation, manuals and manufacturer's specifications
- logs and work reporting documentation
- a range of lighting equipment as identified in the Range Statement
- appropriate storage site
- relevant tools, equipment and materials
- enterprise policies and procedures
- legislative, statutory and Occupational Health and Safety requirements
- Industry standards and codes of practice

#### **(5) Method of Assessment**

Assessment may incorporate a range of methods to assess performance and the application of essential underpinning knowledge, and might include:

- direct observation of the candidate using techniques to disconnect, clean and store lighting equipment
- inspection of lighting disconnected, cleaned and stored by the candidate
- oral or written questioning to assess knowledge of operations involved in disconnecting, cleaning and storing lighting equipment
- review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate

Assessment methods should closely reflect workplace demands and the needs of particular groups (e.g. people with disabilities, and people who may have literacy or numeracy difficulties)

Simulated activities must closely reflect the workplace.

#### **(6) Context of Assessment**

This unit may be assessed on or off the job. Assessment should include practical demonstration either in the workplace or through a simulation. A range of methods to assess underpinning knowledge should support this.

### CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 2	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 2	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 2	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.



## ECELIG1102A: Test basic lighting equipment and circuits

Competency Descriptor:

This unit deals with the skills and knowledge required to test the operational performance basic lighting equipment and circuits.

Competency Field: Lighting Operations

### ELEMENT OF COMPETENCY PERFORMANCE CRITERIA

1. Prepare for test	1.1	Work requirements are identified from request/work orders and are clarified/confirmed with appropriate parties in accordance with enterprise policies and procedures.
	1.2	Test procedures and processes are checked against job requirements, industry standards and manufacturer's specifications.
	1.3	Normal performance and function of the equipment and circuit and expected test results are ascertained by consulting appropriate reference sources in accordance with the work requirements.
	1.4	Testing is planned and prepared to ensure that the work is appropriately sequenced in accordance with job requirements and manufacturer's specifications.
	1.5	Utilities and tools necessary to complete the work are obtained in accordance with established procedures and checked against job requirements.
	1.6	Equipment and testing devices needed to carry out the work are obtained in accordance with established procedures and checked for correct operation and safety where required.
	1.7	Potential safety hazards are identified and prevention and/or control measures are employed in accordance with health and safety requirements.
	1.8	Occupational health and safety standards and statutory requirements are identified and applied to maintain clean and safe work environment.
2. Conduct test	2.1	Equipment and circuits are isolated and checks are made to ensure this using the appropriate testing procedures.
	2.2	Test procedures are selected and performed in accordance with job and manufacturer's specifications.
	2.3	Appropriate utilities, tools, equipment and testing devices are selected and used in accordance with job requirements,

- manufacturer's specifications and industry best practices.
- 2.4 Test data and results are accurately recorded in accordance with enterprise policies and procedures.
  - 2.5 Unplanned events and conditions are appropriately responded to within own area of responsibility in accordance with established procedures.
  - 2.6 Complex issues are referred to appropriate personnel in accordance with enterprise policies and procedures.
  - 2.7 Work process is continuously checked to ensure compliance with quality requirements.
  - 2.8 All activities are performed in accordance with Occupational Health and Safety requirements.
3. Complete test
- 3.1 Actual results are compared to the expected results on completion of each test and discrepancies are accurately documented in accordance with enterprise policies and procedures.
  - 3.2 Lighting equipment and circuits are returned to operational status or set aside for further action in accordance with enterprise policies and procedures and manufacturer's specifications.
  - 3.3 Test results are filed and reported to the appropriate personnel in accordance with enterprise policies and procedures.
  - 3.4 Recorded discrepancies are investigated within area of responsibility and appropriate corrective actions are suggested.
  - 3.5 Work area is cleaned and all tools and equipment are stored in accordance with workplace and manufacturer's specifications.

## RANGE STATEMENT

This unit applies to activities associated with the essential operations linked to testing computer system and components.

Lighting elements may include:

- pracs
- electrical/electronic props
- special effects
- strobes
- mirrorballs and motors
- smoke machines
- fog machines
- ultraviolet light
- chasers
- oil and watercrackers
- effects projectors
- lanterns
- lamps
- dimmers

Appropriate personnel may include:

- supervisor
- head of department
- designer
- director
- stage manager
- other specialist staff

Testing of lanterns, accessories and other lighting elements covers:

- ensuring that all equipment is patched correctly
- ensuring that all operational functions are working correctly
- ensuring that correct colour and accessories are fitted
- ensuring that all items that are controlled by the lighting desk are receiving data and are operating correctly

Operating test equipment will require:

- selection of the correct measurement (AC/DC, amperage, voltage, resistance)
- polarity (where relevant)
- range
- correct scale

Types of production may include:

- concerts
- parties
- feature films
- documentaries
- short films
- animated productions
- commercials
- music video
- television productions of any type (eg music, drama, comedy, variety, sport)
- live or pre-recorded television productions

Control desk peripherals may include:

- monitors
- printers
- external memory storage
- riggers controls
- desk lamps
- control cables effects units and backup units

Dimmers may include:

- analogue dimmers
- multiplexed digital dimmers
- multiplexed analogue dimmers
- single unit (follow spot) dimmers e.g. Model 1 or Monopak
- small self contained dimmable controllers e.g. Fourpack, Quadpak

Lanterns may include:

- theatre-based units
- special effects units
- architectural fixtures

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Test equipment may include:

- test lamps
- continuity tester
- analogue or digital multimeters
- DMX
- cable tester

Testing the control system covers:

- ensuring that all operational controls on the lighting board function properly
- ensuring that all dimmer channels are functioning properly
- ensuring that correct control protocols have been selected
- ensuring that correct dimmer profiles have been selected
- ensuring that correct intelligent light software is installed/selected
- ensuring that all peripherals are functioning properly
- ensuring that soft patch has been correctly configured
- ensuring that any riggers or designer controls are functioning properly
- ensuring that there is a valid DMX line/signal

Tests may include:

- performance testing
- compatibility testing
- usability testing
- functionality testing

Oral communication tasks may include:

- selective listening to identify and respond to relevant cues and modifications to cues
- communicating effectively with stage manager, lighting designer, head electrician, maintenance supervisor, follow spot operator and other relevant personnel
- clarifying, interpreting and following instruction
- problem solving
- verbal fault reports
- interpreting organisational and legislative occupational health and safety requirements

Test results may include:

- voltage
- data
- temperature
- signal

Material to be written may include:

- fault reports
- accident reports
- cue sheets and modifications to cue sheets (on paper or on screen)
- focus notes
- running sheets

Tools, utilities and equipment may include:

- screwdrivers
- pliers
- multimeter
- logic probe/logic pulsers
- outlet tester
- memory testers
- loopback connector
- Torx driver
- boot disk
- software diagnostic tools

Personal protective equipment may include:

- overalls
- boots
- safety glasses/goggles
- gloves
- ear plugs/muffs
- electrostatic discharge (ESD) kit
- face masks/respirators

Discrepancies may include:

- lower voltage readings
- data loss
- slow speed of operations
- solder opens and shorts

Enterprise policies and procedures may include:

- hazard control policies and procedures
- emergency, fire and accident procedures
- personal safety procedures
- procedures for the use of personal protective clothing and equipment
- conflict resolution procedures
- job procedures
- work instructions
- quality procedures
- environmental procedures

Lamps may include:

- incandescent
- discharge
- follow spots
- PAR
- low voltage lamps

Sources of information/documentation may include:

- manufacturer's specifications
- enterprise operating procedures
- work specifications
- technical manuals
- industry publications
- workplace records
- customer requirements
- industry standards
- workplace codes of practice

Potential safety hazards may include:

- electrical shock
- damage to circuit boards
- electrostatic discharge
- overheating of components
- partial short circuits

Unplanned events or conditions may include:

- power surges
- system hangs
- component failure
- presence of incompatible components

Occupational Health and Safety requirements may include:

- personal protective clothing and equipment
- hazard control policies and procedures
- emergency, fire and accident procedures
- safe handling and lifting procedures
- use and disposal of chemicals
- ergonomic considerations
- safe usage and storage of tools, material and equipment
- safe working environment

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to test basic lighting equipment and circuits in accordance with the performance criteria and the range listed within the range of variables statement.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate knowledge of principles and procedures relating to testing lighting equipment and circuits
- review and interpret work requests and identify tasks to be completed
- plan and prepare for work activities
- determine and select appropriate test tools and techniques
- perform tests in conformance with manufacture's specifications, enterprise guidelines and industry standards
- use test tools, equipment and devices correctly and safely
- compare test data with expected outcomes and prepare and maintain test records
- investigate discrepancies and supply corrective measures
- perform all tasks in accordance with enterprise policies and procedures, quality requirements and manufacturer's specifications
- compliance with Occupational Health and Safety requirements and industry standards

### (2) Pre-requisite Relationship of Units

The pre-requisite for this unit is:

- Nil

### (3) Underpinning Knowledge and Skills

Knowledge  
Knowledge of:

- testing procedures
- principles relating to test performance
- industry accepted testing techniques
- types of tools and utilities
- use of tools and utilities
- general lighting terms and how terms may vary between different systems or how different terms can refer to the same functions on different systems
- lighting control concepts used in various lighting systems
- main types of lanterns including profile, fresnel, PC, flood, and PAR lamps), their uses and operations (optical and mechanical) and accessories
- basic elements of lighting design
- problem-solving techniques and their application
- basic maintenance of lighting equipment
- various colour media used in lighting
- DMX protocols
- documentation and back-up systems used in conjunction with lighting control
- aesthetics and visual appeal of lighting effects

- the general scope and potential of lighting operations within different live production contexts, e.g. theatre, music, corporate
- the relationship between lighting operations and other technical and performance areas, including audio, vision systems and performance
- typical roles and responsibilities of the lighting technicians in different context, including career paths
- lighting system options in a range of venue types
- specialised terminology that applies to lighting operations
- general features of lanterns and accessories, dimmers and control systems
- overview of different types of automated lights and the special requirements of this type of technology, including rigging orientation, powering, requirement for data supply and fixture addressing
- overview of appropriate use of standard pump propelled glycol-based atmospheric (smoke) effects
- testing environment
- enterprise testing guidelines
- established sources of testing data
- testing records
- potential sources of discrepancies
- investigating discrepancies
- quality requirements
- manufacturer's specifications
- appropriate corrective measures for discrepancies
- industry standards and codes of practice
- Occupational Health and Safety procedures
- enterprise policies and procedures

#### Skills

The ability to:

- read and interpret technical information
- source and access information
- collect and assess test results
- solve problems
- communicate effectively
- plan and organise work
- select and use appropriate testing procedures
- use testing tools and devices safely
- record test results
- isolate lighting equipment and circuit
- work safely

**(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)
- request/work sheet
- relevant technical documentation, manuals and manufacturer's specifications
- logs and work reporting documentation
- relevant test tool and equipment
- a range of lighting equipment as identified in the Range Statement
- an environment in which lighting can be set up and operated
- a lighting plan from which the candidate is able to work
- a production and production venue
- enterprise policies and procedures
- legislative, statutory and Occupational Health and Safety requirements
- Industry standards and codes of practice

**(5) Method of Assessment**

Assessment may incorporate a range of methods to assess performance and the application of essential underpinning knowledge, and might include:

- direct observation of the candidate using techniques to test lighting equipment and circuits
- inspection of tests results and relevant documentation produced by the candidate to assess functionality of lighting equipment and circuits
- oral or written questioning to assess knowledge of operation involve in testing lighting equipment and circuits
- review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate

Assessment methods should closely reflect workplace demands and the needs of particular groups (e.g. people with disabilities, and people who may have literacy or numeracy difficulties)

Simulated activities must closely reflect the workplace.

**(6) Context of Assessment**

Assessment may take place on the job, off the job or a combination of both of these. However, assessment of this unit would most effectively be undertaken on the job due to the specific workplace environment requirements. Off the job assessment must be undertaken in a closely simulated workplace environment.



## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1	Level 2	Level 3
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 2	
Communicate ideas and information	Level 2	
Plan and organise activities	Level 2	
Work with others and in team	Level 2	
Use mathematical ideas and techniques	Level 2	
Solve problems	Level 2	
Use technology	Level 2	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

## ECELIG1112A: Prepare equipment to modify and control lighting

Competency Descriptor:

This unit deals with the skills and knowledge required to effectively prepare equipment to modify and control lighting for a live production.

Competency Field: Lighting Operations

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1. Plan for lighting activities	1.1	Quality assurance requirements of enterprise's lighting production operations are recognised and adhered to.	
	1.2	Knowledge of the relevant industry standards and best practices in regards to lighting operations is maintained.	
	1.3	Job requirements are accurately identified from lighting plan/drawings and supervisor's instructions.	
	1.4	Occupational Health and Safety (OH&S) requirements are identified and adhered to according to application tasks and workplace environment.	
	1.5	Safety hazards are accurately identified and correct procedures adopted to minimise risk to self and others.	
	1.6	Materials are selected according to supervisor's instructions or lighting plan requirements, safely handled and stored/located and made ready for application.	
	1.7	Appropriate personal protective equipment are selected, correctly fitted and used.	
	1.8	Tools and equipment selected are consistent with job requirements, checked for serviceability and any faults are corrected within own area of responsibility or are reported to the relevant personnel.	
2. Determine modification and control requirements	2.1	Close liaison is held with the relevant personnel and the lighting requirements are interpreted and confirmed so that aesthetic and technical production and script/production requirements are met.	
	2.2	Range of equipment, accessories and cables required to produce required lighting effects are determined and are prepared in accordance with manufacturer's specifications and industry codes of practice.	

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- |    |                   |   |
|----|-------------------|---|
|    | 2.3               | Modifications to be made are determined and effective solutions are devised.  |
| 3. | Prepare equipment |   |
|    | 3.1               | Lighting equipment are prepared and adjusted to the requirements and instructions of the person responsible for the lighting. |
|    | 3.2               | Filter or correction particular luminaries have installed in them are identified and information accurately recorded.         |
|    | 3.3               | Filter and filter frames are attached safely and securely in accordance with manufacturer's specifications.                   |
|    | 3.4               | Lighting supports adequate for the luminaries are determined, attached and placed on level surface.                           |
|    | 3.5               | The filters required for the desired effect are selected and are accurately and economically cut to the required sizes.       |
|    | 3.6               | Large frames and reflectors or diffusers are assembled and used safely and effectively where required.                        |
|    | 3.7               | The correct colour frames are used as required.   |
|    | 3.8               | Flags are positioned and adjusted safely to achieve the desired effect.   |
|    | 3.9               | Lighting equipment are hoisted aloft safely when required.  |
| 4. | Monitor equipment |   |
|    | 4.1               | The lighting effects are rehearsed prior to the shoot until all the relevant parties are satisfied with the effects.          |
|    | 4.2               | The lighting equipment are monitored against the script to maintain the desired effect.                                       |
|    | 4.3               | Faulty equipment promptly identified, labelled and reported clearly to the relevant personnel.                                |
|    | 4.4               | Inoperative equipment are replaced quickly and efficiently with minimum disruption.   |

## **RANGE STATEMENT**

This unit applies to activities associated with the essential operations linked to preparing equipment to modify and control lighting.

Lighting elements may include:

- pracs
- electrical/electronic props
- special effects
- strobes
- mirrorballs and motors
- smoke machines
- fog machines
- ultraviolet light
- chasers
- oil and watercrackers
- effects projectors
- lanterns
- lamps
- dimmers
- flags
- diffusers
- frames
- reflectors

Material to be read and interpreted may include:

- cue sheets
- script
- focus notes
- running sheets
- lighting plan
- patch sheets
- equipment lists
- colour lists
- manuals

Enterprise quality assurance requirements may include:

- quality of work
- testing procedures
- hand over procedure
- compliance with regulations and standards
- types of components
- tagging and labeling procedures

Modifications may include:

- movement or replacement of physical elements
- changes to technical drawings or plans
- cue sheet modification
- introduction of new equipment

Relevant personnel may include:

- supervisor
- head of department
- head lighting technician
- director of photography
- camera operator
- camera assistants
- grips
- director
- producer
- technical director
- other technical staff
- other specialist staff
- designers
- floor manager

Hand tools include but are not limited to:

- chisels
- hacksaws
- hammers
- measuring tapes
- nips
- pliers
- spanners and wrenches
- wire cutters

Power tools include:

- drills
- nail guns
- staplers
- screwdrivers
- sanders

Problems with production operations may include:

- conflicts between different production aspects
- space limitations
- need to adapt equipment/change equipment
- impacts of last minute artistic changes

Types of production may include:

- concerts
- parties
- feature films
- documentaries
- short films
- animated productions
- commercials
- music video
- television productions of any type (eg music, drama, comedy, variety, sport)
- live or pre-recorded television productions

Components may include:

- cables
- lens
- controls
- riggings
- lamps
- monitors

Workplace policies and procedures may include:

- hazard control policies and procedures
- emergency, fire and accident procedures
- personal safety procedures
- procedures for the use of personal protective clothing and equipment
- conflict resolution procedures
- job procedures
- work instructions
- quality procedures
- environmental procedures

Prerequisite activities may include:

- installation of riggings
- installation of power system
- installation of stable foundations
- delivery of components
- removal of obstacles and potentially hazardous items
- getting permits

Personal protective equipment may include:

- overalls
- boots
- hard hat/cap
- safety glasses/goggles
- gloves
- ear plugs/muffs
- face masks/respirators

Industry standards and regulation may include:

- Institute of Electrical and Electronic Engineers specifications
- relevant regulation governing outdoor events
- appropriate lighting production standards
- relevant regulatory electrical wiring specifications

Occupational Health and Safety requirements may include:

- personal protective clothing and equipment
- hazard control policies and procedures
- emergency, fire and accident procedures
- safe handling and lifting procedures
- use and disposal of chemicals
- ergonomic considerations
- safe usage and storage of tools, material and equipment
- safe working environment

Equipment preparation may include:

- assembling component
- configuring component
- attachment of cables
- removal of packaging material
- attachment of protective devices
- rigging of components

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to prepare equipment to modify and control lighting in accordance with the performance criteria and the range listed within the range of variables statement.

### (1) Critical Aspects and Evidence

It is essential that competence be observed in the following aspects:

- demonstrate knowledge of the lighting operations, equipment and processes and the range of applications
- determine work requirements and plan and organise work to fulfill such requirements
- identify, select and use tools, equipment and material to complete tasks to specifications
- recognition of industry-current lighting equipment and accessories, including key features and purpose
- modify and set up industry-current lighting equipment and accessories safely
- ability to apply a range of technical lighting knowledge and manual techniques to the modification and control of lighting so that the lighting set up meets the production and safety requirements
- handle material and equipment safely
- identify problems promptly and handle them as directed
- completion of lighting-related tasks in accordance with health and safety procedures
- perform testing and quality checks
- completion of tasks within typical workplace time constraints
- practical demonstration of skills through the preparation and modifications of lighting equipment for an actual production
- source, interpret and apply technical information to work activities
- involvement of and interaction with a team to reflect the collaborative nature of the technical production process
- compliance with relevant Occupational Health and Safety requirements and industry standards
- perform all task in accordance with standard operating procedures, quality requirements and enterprise policies and procedures

### (2) Pre-requisite Relationship of Units

The pre-requisite for this unit is:

- Nil

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- different ways of modifying and positioning lighting equipment to control lighting
- different electrical supplies and supply systems and how they affect safe use
- how to alter and make adjustments to lighting equipment in order to achieve effects
- how to identify a fault or problem and what can be done to rectify them accurately and quickly
- how to identify difficulties and potential problems in various productions
- how to achieve safe working practices and how to work safely at heights
- how to follow cues and lighting instructions
- how to achieve lighting effects and colour changes
- the general scope and potential of lighting operations within different live production contexts, e.g. theatre, music, corporate
- the relationship between lighting operations and other technical and performance areas, including audio, vision systems and performance
- typical roles and responsibilities of the lighting technicians in different context
- lighting system options in a range of venue types
- specialised terminology that applies to lighting operations
- overview of different types of automated lights and the special requirements of this type of technology, including rigging orientation, powering, requirement for data supply and fixture addressing
- overview of appropriate use of standard lighting effects
- organisational and legislative Occupational Health and Safety legislation in particular relation to lighting operations
- lighting equipment handling, installation and storage
- organisation policies and procedures
- industry regulations, standards and best practices
- drawings and specifications
- portable power tools
- hand tools and equipment
- materials/components preparation and handling
- developing a work plan
- pre-installation requirements and processes
- workplace communications

Skills

The ability to:

- read and interpret technical information
- plan and organise work
- solve problems
- identify and adjust equipment
- use and maintain tools and equipment
- prepare and install equipment
- control and modify lighting
- identify and rectify faults
- rig and position simple floor electrics
- interpret lighting cues and operate lighting equipment
- communicate effectively

**Skills**

The ability to :( Cont'd)

- accurately carry out all recording, reporting and documentation activities
- work safely
- work in compliance with policies and procedures
- work at heights
- apply numeracy skills sufficient to make mathematical calculations necessary for the safe assembly, installation and testing of equipment
- apply literacy skills sufficient to interpret a lighting plan

**(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)
- request/work sheet
- relevant technical documentation, manuals and manufacturer's specifications
- logs and work reporting documentation
- a range of lighting equipment as identified in the Range Statement
- an environment in which lighting can be set up and operated
- a lighting plan from which the candidate is able to work
- a production and production venue
- lighting cues
- relevant tools, equipment and materials
- enterprise policies and procedures
- legislative, statutory and Occupational Health and Safety requirements
- Industry standards and codes of practice

**(5) Method of Assessment**

Assessment may incorporate a range of methods to assess performance and the application of essential underpinning knowledge, and might include:

- direct observation of the candidate completing preparations and adjusting equipment for activities involved modifying and controlling lighting
- evaluation of equipment which has been prepared and set up by the candidate
- oral or written questioning to assess knowledge of lighting activities relating to modifying and controlling lighting
- review of portfolios of evidence or third party workplace reports of on-the-job performance by the candidate
- practical demonstration of skills through the completion of a range of preparatory and set up tasks with industry-current lighting electric equipment
- project or work activities that allow knowledge to be applied to specific production contexts and situations

Assessment should be conducted over time and will generally be in conjunction with assessment of other units of competency.

Simulated activities must closely reflect the workplace.



**(6) Context of Assessment**

Assessment may take place on the job, off the job or a combination of both of these. However, assessment of this unit would most effectively be undertaken on the job due to the specific workplace environment requirements. Off the job assessment must be undertaken in a closely simulated workplace environment.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1	Level 2	Level 3
<ul style="list-style-type: none"> <li>• Carries out established processes</li> <li>• Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Manages process</li> <li>• Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>• Establishes principles and procedures</li> <li>• Evaluates and reshapes process</li> <li>• Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 2	
Communicate ideas and information	Level 2	
Plan and organise activities	Level 2	
Work with others and in team	Level 2	
Use mathematical ideas and techniques	Level 2	
Solve problems	Level 2	
Use technology	Level 2	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

## **ECELIG1122A: Prepare battery-operated lighting equipment and systems**

Competency Descriptor:

This unit deals with the skills and knowledge required to recognise the differences between AC and DC lighting, and preparing batteries and chargers and the battery lighting equipment.

Competency Field: Lighting Operations

<b>ELEMENT OF COMPETENCY</b>		<b>PERFORMANCE CRITERIA</b>	
1.	Plan for lighting activities	1.1	Quality assurance requirements of enterprise's lighting production operations are recognised and adhered to.
		1.2	Knowledge of the relevant industry standards and best practices in regards to lighting operations is maintained.
		1.3	Job requirements are accurately identified from lighting plan/drawings and supervisor's instructions.
		1.4	Occupational Health and Safety (OH&S) requirements are identified and adhered to according to application tasks and workplace environment.
		1.5	Safety hazards are accurately identified and correct procedures adopted to minimise risk to self and others.
		1.6	Materials are selected according to supervisor's instructions or lighting plan requirements, safely handled and stored/located and made ready for application.
		1.7	Appropriate personal protective equipment are selected, correctly fitted and used.
		1.8	Tools and equipment selected are consistent with job requirements, checked for serviceability and any faults are corrected within own area of responsibility or are reported to the relevant personnel.
2.	Assess and maintain batteries	2.1	Key information is extracted from lighting plans and requirements are confirmed with supervisor in accordance with enterprise policies and procedures.
		2.2	Battery equipment list is checked against the lighting list discrepancies in the equipment delivered are overcome quickly and effectively.

- 2.3 Shortages or incorrect types are accurately identified and the appropriate personnel is informed.
  - 2.4 Current flow in DC circuits is accurately calculated and quantity of batteries required to operate system adequately are determined.
  - 2.5 The necessary actions are taken to ensure that exposed terminals to connectors do not become a safety hazard.
  - 2.6 The wiring integrity on battery belts checked when provided following the correct procedures.
  - 2.7 Inverters are connected safely to battery systems in accordance with manufacturer's specifications.
  - 2.8 Lead acid test procedures for life expectancy and cell condition are used and results interpreted to determine status of batteries.
  - 2.9 Batteries are marked and labelled according to their charge state and steps are taken to ensure that all batteries are charged in rotation, marked correctly and safely stored.
3. Prepare equipment and systems
- 3.1 Equipment, accessories and peripherals are safely connected to battery-powered system in accordance with manufacturer's specifications.
  - 3.2 Equipment, accessories and peripherals are powered up and are check for full functionality in accordance with manufacturer's specifications.
  - 3.3 Back up systems are set up for use in the event of an equipment malfunction and tested to ensure that they are in working order.
  - 3.4 Problems are rectified safely, efficiently and in accordance with venue procedures and appropriate personnel are informed as required.

### **RANGE STATEMENT**

This unit applies to activities associated with essential operations linked to preparing battery-operated lighting equipment and systems.

Types of production may include:

- concerts
- parties
- feature films
- documentaries
- short films
- animated productions
- commercials
- music video
- television productions of any type (e.g. music, drama, comedy, variety, sport)
- live or pre-recorded television productions

Dimmers may include:

- analogue dimmers
- multiplexed digital dimmers
- multiplexed analogue dimmers
- single unit (follow spot) dimmers e.g. Model 1 or Monopak
- small self contained dimmable controllers e.g. Fourpack, Quadpak

Appropriate personnel may include:

- supervisor
- head of department
- designer
- director
- stage manager
- other specialist staff

Test equipment may include:

- test lamps
- continuity tester
- analogue or digital multimeters
- DMX
- cable tester

Lanterns may include:

- theatre-based units
- special effects units
- architectural fixtures

Oral communication tasks may include:

- selective listening to identify and respond to relevant cues and modifications to cues
- communicating effectively with stage manager, lighting designer, head electrician, maintenance supervisor, follow spot operator and other relevant personnel
- clarifying, interpreting and following instruction
- problem solving
- verbal fault reports
- interpreting organisational and legislative occupational health and safety requirements

Control desk peripherals may include:

- monitors
- printers
- external memory storage
- riggers controls
- desk lamps
- control cables effects units and backup units

Operating test equipment will require:

- selection of the correct measurement (AC/DC, amperage, voltage, resistance)
- polarity (where relevant)
- range
- correct scale

Lamps may include:

- incandescent
- discharge
- follow spots
- PAR (parabolic aluminized reflector)
- low voltage lamps

Testing the control system covers:

- ensuring that all operational controls on the lighting board function properly
- ensuring that all dimmer channels are functioning properly
- ensuring that correct control protocols have been selected
- ensuring that correct dimmer profiles have been selected
- ensuring that correct intelligent light software is installed/selected
- ensuring that all peripherals are functioning properly
- ensuring that soft patch has been correctly configured
- ensuring that any riggers or designer controls are functioning properly
- ensuring that there is a valid DMX line/signal

Testing of lanterns, accessories and other lighting elements covers:

- ensuring that all equipment is patched correctly
- ensuring that all operational functions are working correctly
- ensuring that correct colour and accessories are fitted
- ensuring that all items that are controlled by the lighting desk are receiving data and are operating correctly

Batteries may include:

- disposable
- rechargeable
- dry cell batteries
- wet cell batteries
- flow batteries
- gel
- traction batteries

Lighting elements may include:

- pracs
- electrical/electronic props
- special effects
- strobes
- mirrorballs and motors
- smoke machines
- fog machines
- ultraviolet light
- chasers
- oil and watercrackers
- effects projectors
- lanterns
- lamps
- dimmers

Material to be read and interpreted may include:

- cue sheets
- script
- focus notes
- running sheets
- lighting plan
- patch sheets
- equipment lists
- colour lists
- manuals

Material to be written may include:

- fault reports
- accident reports
- cue sheets and modifications to cue sheets (on paper or on screen)
- focus notes
- running sheets

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to prepare battery-operated lighting equipment and systems in accordance with the performance criteria and the range listed within the range of variables statement.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate knowledge of the types of batteries, their characteristics, maintenance and operation in a range of applications
- determine work requirements and plan and organise work to fulfill such requirements
- identify, select and use tools, equipment and material to complete tasks to specifications
- recognition of industry-current lighting equipment and accessories, including key features and purpose
- prepare and connect industry-current lighting equipment and accessories safely to batteries powered system
- ability to apply a range of technical lighting knowledge and manual techniques to the preparation and operation of battery-operated lighting equipment and systems so that the lighting set up meets the production and safety requirements
- assess, test, maintain and store batteries to specifications
- identify problems promptly and handle them as directed
- completion of lighting-related tasks in accordance with health and safety procedures
- perform testing and quality checks
- completion of tasks within typical workplace time constraints
- practical demonstration of skills through the preparation and modifications of lighting equipment for an actual production
- source, interpret and apply technical information to work activities
- involvement of and interaction with a team to reflect the collaborative nature of the technical production process
- compliance with relevant Occupational Health and Safety requirements and industry standards
- perform all task in accordance with standard operating procedures, quality requirements and enterprise policies and procedures

### (2) Pre-requisite Relationship of Units

The pre-requisite for this unit is:

- Nil

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- types of batteries and their characteristics and operations
- differences between ac and dc supplies
- maintenance, testing and storage of batteries
- preparing and operating battery powered system
- general lighting terms and how terms may vary between different systems or how different terms can refer to the same functions on different systems
- lighting control concepts used in various lighting systems
- main types of lanterns including profile, fresnel, PC, flood, and PAR lamps), their uses and operations (optical and mechanical) and accessories
- basic elements of lighting design
- problem-solving techniques and their application
- basic maintenance of lighting equipment
- various colour media used in lighting
- DMX protocols
- documentation and back-up systems used in conjunction with lighting control
- aesthetics and visual appeal of lighting effects
- the general scope and potential of lighting operations within different live production contexts, e.g. theatre, music, corporate
- the relationship between lighting operations and other technical and performance areas, including audio, vision systems and performance
- typical roles and responsibilities of the lighting technicians in different context, including career paths
- lighting system options in a range of venue types
- specialised terminology that applies to lighting operations
- general features of lanterns and accessories, dimmers and control systems
- overview of different types of automated lights and the special requirements of this type of technology, including rigging orientation, powering, requirement for data supply and fixture addressing
- overview of appropriate use of standard pump propelled glycol-based atmospheric (smoke) effects
- organisational and legislative Occupational Health and Safety legislation in particular relation to lighting operations, e.g. electrical restrictions
- requirements for charging and storage of batteries
- electrical wiring procedures
- lighting equipment handling and installation
- industry regulations and standards
- organisation policies and procedures

Skills

The ability to: (Cont'd)

- read and interpret technical information
- plan and organise work
- solve problems
- identify and operate equipment
- use and maintain tools and equipment
- charge, test, store, label and maintain batteries
- conduct test and interpret results
- identify and rectify faults
- accurately carry out all recording, reporting and documentation activities
- work safely
- work in compliance with policies and procedures
- apply numeracy skills sufficient to make mathematical calculations necessary for the safe operation of battery-operated lighting equipment and systems
- apply literacy skills sufficient to interpret a lighting plan
- understand and interpret a range of industry terminology and protocols
- communicate effectively with people from diverse cultural backgrounds
- perform complete simple mathematical calculations using a scale rule
- listen critically and discriminate aurally

**(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)
- request/work sheet
- relevant technical documentation, manuals and manufacturer's specifications
- logs and work reporting documentation
- a range of lighting equipment as identified in the Range Statement
- an environment in which lighting can be set up and operated
- a lighting plan from which the candidate is able to work
- a production and production venue
- relevant tools, equipment and materials
- batteries and battery-operated system
- enterprise policies and procedures
- legislative, statutory and Occupational Health and Safety requirements
- Industry standards and codes of practice



**(5) Method of Assessment**

Assessment may incorporate a range of methods to assess performance and the application of essential underpinning knowledge, and might include:

- direct observation of the candidate using techniques to prepare battery-operated lighting equipment and systems
- inspection of battery-operated lighting equipment and systems set up by the candidate to assess workability and safety issues
- oral or written questioning to assess knowledge of operation involved in battery-operated lighting equipment and systems
- review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate

Assessment methods should closely reflect workplace demands and the needs of particular groups (e.g. people with disabilities, and people who may have literacy or numeracy difficulties)

Simulated activities must closely reflect the workplace.

**(6) Context of Assessment**

This unit may be assessed on or off the job. Assessment should include practical demonstration either in the workplace or through a simulation. A range of methods to assess underpinning knowledge should support this.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>• Carries out established processes</li> <li>• Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Manages process</li> <li>• Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>• Establishes principles and procedures</li> <li>• Evaluates and reshapes process</li> <li>• Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 2	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 2	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 2	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

## **ECELIG1132A: Interpret lighting plan and specifications**

Competency Descriptor:

This unit deals with the skills and knowledge required to effectively interpret lighting plan and specifications to achieve required technical production requirements.

Competency Field: Lighting Operations

<b>ELEMENT OF COMPETENCY</b>		<b>PERFORMANCE CRITERIA</b>	
1.	Identify and access lighting plan and specifications	1.1	Appropriate lighting plan and specifications are identified and accessed to obtain the information required.
		1.2	Amendment status is clearly established to ensure the correct specifications and procedures are applied.
		1.3	Relevant sources of the lighting plan and specifications are identified and accessed in accordance with enterprise guidelines.
		1.4	Industry knowledge is updated and maintained to be kept informed of new publications and changes in relation to lighting plan and specifications.
2.	Interpret information	2.1	Relevant chapter or section of lighting plan and specifications is located in relation to the work to be carried out or the required information.
		2.2	Information is interpreted and procedures to be followed are accurately determined.
		2.3	Quality specification for specific processes and related systems are interpreted.
3.	Apply information	3.1	Work steps are correctly identified in accordance with manual or specification procedures.
		3.2	All correct sequencing and adjustments are interpreted in accordance with information contained in industry manuals or specifications.
		3.3	Measurements and calculations are correctly applied based on information obtained from drawings and specifications.

- |    |  |     |   |
|----|--|-----|---|
| 4. | Amend lighting plan and specifications | 4.1 | Lighting plan and specifications changes and /or amendments are researched and documented correctly in accordance with statutory regulations and/or enterprise procedures.                                    |
|    |  | 4.2 | Authorized lighting plan and specifications changes and/or amendments are incorporated into existing documentations in accordance with enterprise guidelines and procedures.                                  |
| 5. | Store lighting plan and specifications | 5.1 | Enterprise procedures on storage and retrieval of lighting plan and specifications are identified and followed.   |
|    |  | 5.2 | Lighting plan and specifications are stored appropriately to ensure prevention of damage, ready access and updating of information when required, in accordance with regulatory and/or enterprise procedures. |

## RANGE STATEMENT

This unit applies to activities associated with the essential operations linked to interpreting lighting plan and specifications.

Specifications may include:

- cue sheets
- script
- focus notes
- running sheets
- patch sheets
- equipment lists
- colour lists
- manuals
- manufacturer specifications
- enterprise operating procedures and guidelines
- product manufacturer operating manuals
- customer requirements
- industry regulations
- industry/workplace codes of practice
- drawings and plans
- Occupational Health and Safety guidelines

Sources of information may include:

- product manufacturer
- industry publications
- Internet
- industry professional bodies
- newsgroup
- vendors and suppliers
- enterprise
- supervisor
- lighting designer
- producer
- director
- stage manager

Specifications and procedures may include:

- installation procedures
- cues
- maintenance procedures
- operating procedures
- safety guidelines

Lighting requirements may include:

- special effects
- strobes
- disperse lighting
- multiple coloured
- follow spot

Amendments and changes may include:

- modifications to cues, designs and production
- new procedures
- changes to reflect new technologies
- adjustments to drawings and plans
- improvements to and upgrading of existing processes/products
- adjustments to reflect compliance with changes in regulations

Documentation type may include:

- paper-based
- computer based media
- electronic
- microfiche

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to interpret lighting plan and specifications in accordance with the performance criteria and the range listed within the range of variables statement.

### (1) Critical Aspects and Evidence

It is essential that competence be observed in the following aspects:

- demonstrate understanding of specialised knowledge with depth of components, systems and industry documentations
- identifying and accessing plans, manuals, drawings or specifications of lighting requirements, equipment or systems
- interpreting lighting plan and specifications accurately and determining work requirements
- applying information in lighting plan and specifications to achieving production requirements
- storing lighting plan and specifications
- making authorized changes/amendments to lighting plan and specifications
- source, interpret and apply technical information to work activities
- communicate and negotiate effectively with others in associated areas
- compliance with relevant Occupational Health and Safety requirements and industry standards
- perform all task in accordance with standard operating procedures, quality requirements and enterprise policies and procedures

### (2) Pre-requisite Relationship of Units

The pre-requisite for this unit is:

- Nil

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- accessing and interpreting information from lighting plan and specifications
- storage media for lighting plan and specifications
- determining lighting plan and specifications amendment status
- content of lighting plan and specifications
- locating and accessing relevant information/instructions for work activity
- amending lighting plan and specifications to reflect current/approved amendment status
- identifying and interpreting information from drawings and diagrams in installation/maintenance manuals, including component scaling, section, assembly, location, drawing applicability and amendment status from the title block
- correct handling and storage of drawings, manuals and industry media, i.e. microfiche and digital formats
- calculating allowable dimension variations on a component from information in drawing title blocks and drawings
- general lighting terms and how terms may vary between different systems or how different terms can refer to the same functions on different systems
- lighting control concepts used in various lighting systems
- basic elements of lighting design
- problem-solving techniques and their application
- current industry lighting equipment and software
- various colour media used in lighting
- aesthetics and visual appeal of lighting effects
- the general scope and potential of lighting operations within different live production contexts, e.g. theatre, music, corporate
- the relationship between lighting operations and other technical and performance areas, including audio, vision systems and performance
- lighting system options in a range of venue types
- specialised terminology that applies to lighting operations
- general features of lanterns and accessories, dimmers and control systems
- overview of different types of automated lights and the special requirements of this type of technology, including rigging orientation, powering, requirement for data supply and fixture addressing
- organisational and legislative Occupational Health and Safety legislation in particular relation to lighting operations, e.g. electrical restrictions
- colour recognition
- requirements for storage of lighting equipment
- electronic principles and symbols
- electrical wiring procedures and symbols
- lighting equipment handling and installation
- industry regulations and standards
- organisation policies and procedures
- industry terminology and symbols
- relevant sources of information
- product manufactures
- types of manuals, specifications and drawings

**Skills**

The ability to:

- identify and access relevant sources of information
- access and interpret manuals, specifications and drawings
- store documentations
- apply information from manuals, specifications and drawings
- communicate effectively
- recognize industry symbols and terminology
- perform measurements and calculations based on drawings
- make authorized changes and amendments to drawings/documentations

**(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)
- request/work sheet
- manuals, specifications and drawings
- access to sources of information
- relevant technical documentation, manuals and manufacturer's specifications
- logs and work reporting documentation
- an environment in which lighting can be set up and operated
- a lighting plan from which the candidate is able to work
- relevant tools, equipment and materials to access and record information
- enterprise policies and procedures
- legislative, statutory and Occupational Health and Safety requirements
- Industry standards and codes of practice

**(5) Method of Assessment**

Assessment methods must confirm consistency of performance over time and in a range of workplace relevant contexts.

Evidence may be collected in a variety of ways including:

- direct observation
- oral questioning
- written tests
- case studies
- evaluation of work plan and technical documents produced by candidate
- evaluation of workplace records, projects, job documents and performance appraisals
- testimonials from clients
- portfolio of evidence of previous works and qualifications
- authenticated assessments and/or assignments from relevant training courses
- supporting statement from supervisor or previous employer

Assessment should be conducted over time and will generally be in conjunction with assessment of other units of competency.

Simulated activities must closely reflect the workplace.

**(6) Context of Assessment**

Assessment may take place on the job, off the job or a combination of both of these. However, assessment of this unit would most effectively be undertaken on the job due to the specific workplace environment requirements. Off the job assessment must be undertaken in a closely simulated workplace environment.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1	Level 2	Level 3
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 2	
Communicate ideas and information	Level 2	
Plan and organise activities	Level 2	
Work with others and in team	Level 2	
Use mathematical ideas and techniques	Level 2	
Solve problems	Level 2	
Use technology	Level 2	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

## **ECELIG1152A: Prepare for lighting activities**

### Competency Descriptor:

This unit deals with the skills and knowledge required to effectively prepare for lighting activities in accordance with industry and enterprise practices.

Competency Field: Lighting Operations

<b>ELEMENT OF COMPETENCY</b>		<b>PERFORMANCE CRITERIA</b>	
1.	Plan for lighting activities	1.1	Quality assurance requirements of enterprise's lighting production operations are recognised and adhered to.
		1.2	Knowledge of the relevant industry standards and best practices in regards to lighting operations is maintained.
		1.3	Job requirements are accurately identified from lighting plan/drawings and supervisor's instructions.
		1.4	Occupational Health and Safety (OH&S) requirements are identified and adhered to according to application tasks and workplace environment.
		1.5	Safety hazards are accurately identified and correct procedures adopted to minimise risk to self and others.
		1.6	Materials are selected according to supervisor's instructions or lighting plan requirements, safely handled and stored/located and made ready for application.
		1.7	Appropriate personal protective equipment are selected, correctly fitted and used.
		1.8	Tools and equipment selected are consistent with job requirements, checked for serviceability and any faults are corrected within own area of responsibility or are reported to the relevant personnel.
2.	Prepare components selected for lighting production process	2.1	Activities for components preparation are identified from specifications or supervisor's instructions.
		2.2	Preparation of components is carried out to satisfy requirements of installation process.



- |  |     |   |
|--|-----|---|
|  | 2.3 | Correct manual handling techniques used to remove components to location of placement.  |
|  | 2.4 | Components are distributed and stacked to suit job location and installation sequence.  |
| 3. Prepare work area suitable for lighting production process                        | 3.1 | Activities to be carried out in work area are identified from type of components, planned layout of system and access location.   |
|  | 3.2 | Work area is prepared for lighting production process according to enterprise guidelines, lighting requirements and supervisor's instructions.                          |
| 4. Select tools, materials and equipment appropriate for lighting production process | 4.1 | All hand and power tools suitable for application processes are identified to job requirements.   |
|  | 4.2 | Hand and power tools and leads/hoses visually checked for serviceability/safety in accordance with OH&S requirements and any faults reported to the relevant personnel. |
| 5. Plan steps required to complete task  | 5.1 | Based on instructions and specifications provided, the individual steps or activities required to undertake the task are understood and are clarified where necessary.  |
|  | 5.2 | Sequence of activities required to be completed is identified in the work plan.   |
|  | 5.3 | Planned steps and outcome are checked to ensure conformity with instructions and relevant specifications.   |
|  | 5.4 | Plan is submitted to supervisor to be reviewed.   |
| 6. Review plan   | 6.1 | Outcomes are identified and compared with (planned) objectives, task instructions, specifications and task requirements.  |
|  | 6.2 | If necessary, plan is revised to better meet objectives and task requirements.  |
| 7. Confirm readiness for lighting production operations                              | 7.1 | All prerequisite activities for lighting production operations are checked to be complete in accordance with enterprise and industry requirements.                      |
|  | 7.3 | Incomplete activities are referred to the appropriate authority in accordance with enterprise guidelines.   |
|  | 7.4 | Readiness to proceed with the lighting production tasks is confirmed with supervisor.   |

## RANGE STATEMENT

This unit applies to activities associated with the essential operations linked to preparing for lighting activities.

Types of production involving lighting may include:

- concerts
- parties
- feature films
- documentaries
- short films
- animated productions
- commercials
- music video
- television productions of any type (eg music, drama, comedy, variety, sport)
- live or pre-recorded television productions

Hand tools include but are not limited to:

- chisels
- hacksaws
- hammers
- measuring tapes
- nips
- pliers
- spanners and wrenches
- wire cutters

Power tools include:

- drills
- nail guns
- staplers
- screwdrivers
- sanders

Components may include:

- consoles
- lanterns
- dimmers
- riggings
- lamps
- monitors

Enterprise quality assurance requirements may include:

- quality of work
- testing procedures
- hand over procedure
- compliance with regulations and standards
- types of components
- tagging and labeling procedures

Personal protective equipment may include:

- overalls
- boots
- hard hat/cap
- safety glasses/goggles
- gloves
- ear plugs/muffs
- face masks/respirators

Occupational Health & Safety requirements may include:

- workshop/worksite safe working practices
- use of tools and equipment
- use of power tools
- safe handling and storage of materials

Industry standards and regulation may include:

- Institute of Electrical and Electronic Engineers specifications
- relevant regulation governing outdoor events
- appropriate lighting production standards
- relevant regulatory electrical wiring specifications

Prerequisite activities may include:

- installation of riggings
- installation of power system
- installation of stable foundations
- delivery of components
- removal of obstacles and potentially hazardous items
- getting permits

Component preparation may include:

- assembling component
- configuring component
- attachment of cables
- removal of packaging material
- attachment of protective devices
- rigging of components

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to prepare for lighting activities in accordance with the performance criteria and the range listed within the range of variables statement.

### (1) Critical Aspects and Evidence

It is essential that competence be observed in the following aspects:

- demonstrate knowledge of industry standards, regulations and best practices applicable to lighting production operations
- indicate compliance with enterprise policies and procedures including quality assurance requirements
- interpret lighting plan and specification, develop work plan and prepare worksite
- carry out all activities using the correct procedures prior to application of lighting production processes
- select required tools, equipment and materials and prepare relevant components
- adopt and use correct procedures to handle and place materials/components
- interactively communicate with others to ensure safe and effective worksite operations

### (2) Pre-requisite Relationship of Units

The pre-requisite for this unit is:

- Nil

### (3) Underpinning Knowledge and Skills

#### Knowledge

Knowledge of:

- the general scope and potential of lighting operations within different live production contexts, e.g. theatre, music, corporate
- the relationship between lighting operations and other technical and performance areas, including audio, vision systems and performance
- typical roles and responsibilities of the lighting technicians in different context
- lighting system options in a range of venue types
- specialised terminology that applies to lighting operations
- general features of lanterns and accessories, dimmers and control systems

Knowledge

Knowledge of: (Cont'd)

- overview of different types of automated lights and the special requirements of this type of technology, including rigging orientation, powering, requirement for data supply and fixture addressing
- overview of appropriate use of standard lighting effects
- organisational and legislative Occupational Health and Safety legislation in particular relation to lighting operations
- colour recognition
- electrical wiring procedures
- lighting equipment handling, installation and storage
- organisation policies and procedures
- industry regulations, standards and best practices
- drawings and specifications
- portable power tools
- hand tools and equipment
- materials/components preparation and handling
- industry accepted hardware and software components
- developing a work plan
- pre-installation requirements and processes workplace communications

Skills

The ability to:

- work safely to instructions
- read installation
- interpret job specifications
- use power tools and hand tools
- handle material/components
- select materials, tools and components
- develop work plan
- prepare components for installation
- communicate effectively

**(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)
- relevant materials and components
- relevant tools and equipment
- enterprise and industry requirements and standards
- suitable work area

**(5) Method of Assessment**

Assessment may incorporate a range of methods to assess performance and the application of essential underpinning knowledge, and might include:

- direct observation of the candidate completing preparations for lighting-related tasks
- evaluation of equipment which has been set up by the candidate
- oral or written questioning to assess knowledge of lighting pre-production activities
- review of portfolios of evidence or third party workplace reports of on-the-job performance by the candidate
- practical demonstration of skills through the completion of a range of preparatory and set up tasks with industry-current lighting equipment
- project or work activities that allow knowledge to be applied to specific production contexts and situations

Assessment should be conducted over time and will generally be in conjunction with assessment of other units of competency.

Simulated activities must closely reflect the workplace.

**(6) Context of Assessment**

Assessment may take place on the job, off the job or a combination of both of these. However, assessment of this unit would most effectively be undertaken on the job due to the specific workplace environment requirements. Off the job assessment must be undertaken in a closely simulated workplace environment.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1	Level 2	Level 3
<ul style="list-style-type: none"> <li>• Carries out established processes</li> <li>• Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Manages process</li> <li>• Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>• Establishes principles and procedures</li> <li>• Evaluates and reshapes process</li> <li>• Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 2	
Communicate ideas and information	Level 2	
Plan and organise activities	Level 2	
Work with others and in team	Level 2	
Use mathematical ideas and techniques	Level 2	
Solve problems	Level 2	
Use technology	Level 2	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**ECELIG1162A****Apply a general knowledge of lighting to work activities****Competency Descriptor:**

This unit deals with the skills and knowledge required for the application of the foundation knowledge required to complete a range of general lighting-related tasks in a live venue environment. It includes the need for an understanding of the role of the lighting technician, overall lighting system layout and basic equipment recognition. Tasks would generally be completed under supervision.

**Competency Field:** Lighting Operations

<b>ELEMENT OF COMPETENCY</b>		<b>PERFORMANCE CRITERIA</b>	
1.	Make preparations for lighting set up	1.1	Key information is extracted from lighting plans and requirements are confirmed with supervisor in accordance with enterprise policies and procedures.
		1.2	Appropriate rigging and positioning points for lighting equipment are correctly identified.
		1.3	Cables used to connect different lighting components are correctly identified.
		1.4	Equipment and accessories are correctly identified and sorted in preparation for set up, ensuring appropriate handling and taking account of equipment differences.
2.	Complete tasks using lighting equipment	2.1	The lighting desk is correctly used to bring up channels for focussing in accordance with manufacturer's specifications.
		2.2	Dimmers are correctly and safely powered up and patch location set up in accordance with established procedures.
		2.3	Light beam control accessories are matched to lights and are used in accordance with instructions.
		2.4	Cables are correctly handled, including rolling/unrolling, storage and safe manual handling.
		2.5	Any problems with equipment are promptly identified, corrective actions are taken within the scope of individual responsibility or they are reported to supervisor in accordance with enterprise policies and procedures.

- 2.6 Other technicians, performers or customers are appropriately communicated with during the completion of tasks.

## RANGE STATEMENT

The following explanations identify how this unit may be applied in different workplaces, sectors and circumstances.

Use of lighting desk must include:

- manual preset operation
- theatrical cue set up and playback
- single scene sub master operation (a single set of channel levels being stored in a fader for later use)
- sub master cue stacking and playback (a series of cues, namely sets of channel levels and fade times, stored in sequence and recalled later)

Use of conventional lights must include:

- finding out the correct replacement lamp and wattage of the lantern
- awareness of the different types of lamp bases
- correct bubble handling techniques
- awareness of how heat is dissipated by a lantern
- when incorrect orientation of a lamp may reduce filament and lantern life

Workplace policies and procedures may include:

- hazard control policies and procedures
- emergency, fire and accident procedures
- personal safety procedures
- procedures for the use of personal protective clothing and equipment
- conflict resolution procedures
- job procedures
- work instructions
- quality procedures
- environmental procedures

Use of dimmer and patch system layouts may include:

- distributed dimming dimmers located where required
- distributed patch patch lines from a single dimmer location to destination lights
- dual systems combination of the above two systems
- automated lighting requirements direct power and data lines required (no dimmer)

Light beam control accessories may include:

- gel types and gel frames
- barn doors
- gobos and gobo holders
- iris
- doughnuts and top hats
- black wrap
- shutters
- spun

Occupational Health and Safety requirements may include:

- personal protective clothing and equipment
- hazard control policies and procedures
- emergency, fire and accident procedures
- safe handling and lifting procedures
- use and disposal of chemicals
- ergonomic considerations
- safe usage and storage of tools, material and equipment
- safe working environment

Conventional lights to be used must include:

- floods and PARS and cyc lights
- fresnel and pebbled convex (PC) lanterns
- profile, ellipsoidal profile

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to apply a general knowledge of lighting to work activities in accordance with the performance criteria and the range listed within the range of variables statement.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate knowledge of the lighting operations, equipment and processes and the range of applications
- determine work requirements and plan and organise work to fulfill such requirements
- identify, select and use tools, equipment and material to complete tasks to specifications
- recognition of lighting equipment and accessories, including key features and purpose
- set up and operate lighting equipment and accessories safely
- handle material and equipment safely
- identify problems promptly and handle them as directed
- completion of lighting-related tasks in accordance with health and safety procedures
- perform testing and quality checks
- source, interpret and apply technical information to work activities
- communicate effectively with others in associated areas
- compliance with relevant Occupational Health and Safety requirements and industry standards
- perform all task in accordance with standard operating procedures, quality requirements and enterprise policies and procedures

### (2) Pre-requisite Relationship of Units

The pre-requisite for this unit is:

- Nil

### (3) Underpinning Knowledge and Skills



Knowledge

Knowledge of:

- the general scope and potential of lighting operations within different live production contexts, e.g. theatre, music, corporate
- the relationship between lighting operations and other technical and performance areas, including audio, vision systems and performance
- typical roles and responsibilities of the lighting technicians in different context, including career paths
- lighting system options in a range of venue types
- specialised terminology that applies to lighting operations
- general features of lanterns and accessories, dimmers and control systems
- overview of different types of automated lights and the special requirements of this type of technology, including rigging orientation, powering, requirement for data supply and fixture addressing
- overview of appropriate use of standard pump propelled glycol-based atmospheric (smoke) effects
- organisational and legislative Occupational Health and Safety legislation in particular relation to lighting operations, e.g. electrical restrictions
- colour recognition
- requirements for storage of lighting equipment
- electrical wiring procedures
- lighting equipment handling and installation
- industry regulations and standards
- organisation policies and procedures

Skills

The ability to:

- read and interpret technical information
- plan and organise work
- solve problems
- identify and operate equipment
- use and maintain tools and equipment
- install and handle equipment
- conduct test and interpret results
- identify and rectify faults
- communicate effectively
- accurately carry out all recording, reporting and documentation activities
- work safely
- work in compliance with policies and procedures
- apply literacy skills sufficient to interpret lighting plans, understand use of scale, lighting symbols and notation conventions
- apply numeracy skills sufficient to count and sort equipment and use numerical features of lighting desks

**(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)
- request/work sheet
- relevant technical documentation, manuals and manufacturer's specifications
- logs and work reporting documentation
- a range of lighting equipment as identified in the Range Statement
- an environment in which lighting can be set up and operated
- lighting plan for interpretation
- relevant tools, equipment and materials
- enterprise policies and procedures
- legislative, statutory and Occupational Health and Safety requirements
- Industry standards and codes of practice

**(5) Method of Assessment**

Assessment may incorporate a range of methods to assess performance and the application of essential underpinning knowledge, and might include:

- direct observation of the candidate completing lighting-related tasks
- evaluation of equipment which has been set up by the candidate
- oral or written questioning to assess knowledge of equipment types
- review of portfolios of evidence or third party workplace reports of on-the-job performance by the candidate
- practical demonstration of skills through the completion of a range of preparatory and set up tasks with industry-current lighting equipment
- project or work activities that allow knowledge to be applied to specific production contexts and situations

Assessment methods should closely reflect workplace demands and the needs of particular groups (e.g. people with disabilities, and people who may have literacy or numeracy difficulties such as speakers of languages other than English, remote communities and those with interrupted schooling).

**(6) Context of Assessment**

Assessment may take place on the job, off the job or a combination of both of these. However, assessment of this unit would most effectively be undertaken on the job due to the specific workplace environment requirements. Off the job assessment must be undertaken in a closely simulated workplace environment.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 2	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

## ECEGEN0302A: Prepare and present technical reports

Competency Descriptor:

This unit deals with the skills and knowledge required to gather information, prepare and present technical reports on work activities and solutions.

Competency Field: Communications

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Research information	1.1	Topic of the report is identified and described.
		1.2	Sources of information and data are determined.
		1.3	Information and data appropriate to the task is collected and organised according to enterprise standards.
2.	Evaluate information	2.1	Information collected is relevant and sufficient to provide a full report.
		2.2	Clarification and assistance is sought where information is unclear or difficult to understand.
		2.3	Additional information is obtained where available information is inadequate.
		2.4	Information is assessed for its validity and reliability and is organised into a suitable form to aid decision-making.
		2.5	Conclusions drawn from relevant information are based on reasoned argument and appropriate evidence.
3.	Record information	3.1	The purpose and scope of information to be recorded is accurately determined.
		3.2	Accuracy of information is verified before recording.
		3.3	Format and media in which to present the information is selected in accordance with the intended purpose of the information and established requirements.
		3.4	Information is recorded accurately and concisely in accordance with established procedures.
4.	Produce document	4.1	Language is applicable to the task and audience.
		4.2	The document is organised logically, is structured and balanced according to purpose, audience and context.

- |    |                              |   |
|----|------------------------------|---|
|    | 4.3                          | The document is formatted and presented according to industry and enterprise standards.                     |
|    | 4.4                          | Conclusions reached reflect the stated objectives of the report.  |
|    | 4.5                          | Preparation is completed within the specified timeframe.  |
|    | 4.6                          | Enterprise and Occupational Health and Safety requirements and procedures are followed.                     |
| 5. | Deliver an oral presentation |   |
|    | 5.1                          | Language is applicable to the task and audience.  |
|    | 5.2                          | Presentation is organised logically, is structured and balanced according to purpose, audience and context. |
|    | 5.3                          | Concise and well presented support materials are used in oral presentations to reflect industry standards.  |
|    | 5.4                          | Efficient time use allows clear presentation of the desired topic.  |
|    | 5.5                          | Oral presentation is delivered within a specified time.   |

## RANGE STATEMENT

This unit applies to activities associated with the essential operations linked to preparing and presenting technical reports.

Sources of information/data may include:

- work activities
- research materials
- published books
- academic reports
- industry reports
- colleagues
- internet
- newspapers, journals, industry publications
- industry specialists and experts

Information/data may include:

- test data
- installation activities
- troubleshooting procedures
- information technology solutions
- maintenance procedures

Format of report may include:

- paper-based reports
- graphical
- electronic
- powerpoint presentations
- spreadsheets

Support materials may include:

- charts
- graphs
- models
- slides
- handouts

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to prepare and present technical reports in accordance with the performance criteria and the range listed within the range of variables statement.

### (1) Critical Aspects and Evidence

It is essential that competence be observed in the following aspects:

- demonstrate knowledge of preparing and structuring technical reports encompassing a range of information
- demonstrate writing skills which reflects standards practices of the English Language
- source and access the relevant information and deliver it in the required format
- consultatively evaluate information and ensure that the information will accomplish its intended purpose
- determine purpose of report and select appropriate presentation format
- record information in accordance with established requirements
- demonstrate the ability to produce and present technical reports in the appropriate timeframe and to specifications
- comply with industry and enterprise procedures and guidelines

### (2) Pre-requisite Relationship of Units

The pre-requisite for this unit is:

- Nil

### (3) Underpinning Knowledge and Skills

#### Knowledge

Knowledge of:

- report writing
- enterprise guidelines
- industry practices
- relevant sources of information for technical information
- communication techniques
- industry terminology
- Occupational Health and Safety requirements
- grammar
- mechanics
- spelling and pronunciations
- interactive communication
- preparing presentations
- relevant support materials and their preparation

#### Skills

The ability to:

- source and access information
- identify topics of report and the corresponding body of information
- evaluate information
- record information
- produce reports to specifications
- deliver oral presentations
- use appropriate language and support material
- communicate effectively
- use relevant tools and equipment
- display appropriate body language
- follow procedures and guidelines

**(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)
- access to sources of information
- relevant template and forms
- relevant sources of information and enterprise guidelines
- relevant tools and equipment

**(5) Method of Assessment**

Assessment methods must confirm consistency of performance over time and in a range of workplace relevant contexts.

Evidence may be collected in a variety of ways including:

- direct observation
- oral questioning
- written tests
- case studies
- evaluation of documents produced
- evaluation of workplace records, job documents and performance appraisals
- testimonials from clients
- portfolio of evidence of previous works and qualifications
- authenticated assessments and/or assignments from relevant training courses
- supporting statement from supervisor or previous employer

Assessment should be conducted over time and will generally be in conjunction with assessment of other units of competency.

Simulated activities must closely reflect the workplace.

**(6) Context of Assessment**

Assessment may take place on the job, off the job or a combination of both of these. However, assessment of this unit would most effectively be undertaken on the job due to the specific workplace environment requirements. Off the job assessment must be undertaken in a closely simulated workplace environment.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1	Level 2	Level 3
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 2	
Communicate ideas and information	Level 2	
Plan and organise activities	Level 2	
Work with others and in team	Level 2	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 2	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.



## ECELIG1172A: Operate simple lighting consoles

### Competency Descriptor:

This unit deals with the skills and knowledge required prepare and operate simple lighting consoles/desks and monitor quality of lighting during a production.

Competency Field: Lighting Operations

### ELEMENT OF COMPETENCY PERFORMANCE CRITERIA

1. Prepare for lighting production	1.1	Key information is extracted from lighting plans and requirements are confirmed with supervisor in accordance with enterprise policies and procedures.
	1.2	Visual and aesthetic requirements of the production are correctly interpreted and confirmed with the relevant parties.
	1.3	Range of equipment, accessories and cables required to produce required lighting effect are determined and are appropriately positioned.
	1.4	Appropriate console to produce and monitor desired lighting effect is identified and selected.
2. Prepare simple lighting console	2.1	Luminaire circuits are patched to the appropriate circuits in accordance with manufacturer's specifications.
	2.2	Dimmers are patched to appropriate channel numbers in accordance with manufacturer's specifications.
	2.3	Correct dimmer profiles are selected in accordance with lighting specifications.
	2.4	Correct control protocols are selected in accordance with lighting specifications.
	2.5	Correct intelligent light software is selected in accordance with lighting specifications.
	2.6	Soft patch is correctly configured.
	2.7	All equipment, accessories and effects are connected to the correct channel number, voltage and current rating and frequency in accordance with manufacturer's specifications and industry best practices.

- |    |                                 |     |   |
|----|---------------------------------|-----|---|
| 3. | Test console                    | 3.1 | All operational aspects of the lighting console is tested and checked to ensure that all operational controls on the lighting board function properly.  |
|    |                                 | 3.2 | Tests are carried out to ensure that there is a valid DMX line/signal and all peripherals are operating properly.   |
|    |                                 | 3.3 | The picture is balanced to achieve required effect, according to the style and nature of production.  |
|    |                                 | 3.4 | Any problems with equipment are promptly identified, corrective actions are taken within the scope of individual responsibility or they are reported to supervisor in accordance with enterprise policies and procedures. |
| 4. | Operate simple lighting console | 4.1 | Lighting changes are execute on cue in accordance with the running/call sheet, directions from relevant personnel and the requirements of the production.   |
|    |                                 | 4.2 | Changes to channel numbers, luminaries and dimmers quickly are executed quickly.  |
|    |                                 | 4.3 | Lighting is monitored and changes are made to ensure that image and light quality matches the required mood and effect.   |
|    |                                 | 4.4 | The levels of channels are adjusted during the production as required.  |
|    |                                 | 4.5 | Continuity of lighting is maintained throughout the production and problems are resolved in accordance with established procedures.   |

## RANGE STATEMENT

The following explanations identify how this unit may be applied in different workplaces, sectors and circumstances.

Lanterns may include:

- studio based units
- special effects units
- architectural fixtures

Control desks may include:

- manual desks
- manual/memory desks
- remotely controlled lighting effects

Lighting plans and other documentation may be:

- computer generated
- manually written

Relevant personnel may include:

- supervisor
- head of department
- head lighting technician
- director of photography
- camera operator
- camera assistants
- grips
- director
- producer
- technical director
- other technical staff
- other specialist staff

Quality of light may include:

- dispersion
- direction
- intensity
- pictorial quality
- tonal differences and range
- colour quality
- temperature
- filters
- type of surface
- object
- pictorial lighting style
- sources

Dimmers may include:

- analogue dimmers
- multiplexed digital dimmers
- multiplexed analogue dimmers
- single unit (follow spot) dimmers
- small self contained dimmable controllers
- MUX and DMUX units

Environments where lighting console may be operated include:

- in a studio
- outdoors
- in a concert hall
- in a theatre

Types of production may include:

- concerts
- parties
- feature films
- documentaries
- short films
- animated productions
- commercials
- music video
- television productions of any type (e.g. music, drama, comedy, variety, sport)
- live or pre-recorded television productions

Workplace policies and procedures may include:

- hazard control policies and procedures
- emergency, fire and accident procedures
- personal safety procedures
- procedures for the use of personal protective clothing and equipment
- conflict resolution procedures
- job procedures
- work instructions
- quality procedures
- environmental procedures

Lamps may include:

- incandescent
- discharge
- follow spots
- PAR
- low voltage lamps

Control desk peripherals may include:

- monitors
- printers
- external memory storage
- riggers controls, desk lamps
- control cables effects units and backup units

Occupational Health and Safety requirements may include:

- personal protective clothing and equipment
- hazard control policies and procedures
- emergency, fire and accident procedures
- safe handling and lifting procedures
- use and disposal of chemicals
- ergonomic considerations
- safe usage and storage of tools, material and equipment
- safe working environment

Relevant information on lighting plan may include:

- patch sheet
- colour list
- equipment list
- focus details
- cue synopsis
- magic sheet

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to operate simple lighting consoles activities in accordance with the performance criteria and the range listed within the range of variables statement.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate knowledge of the lighting operations and the range of applications, consoles characteristics and operations, lighting equipment and processes
- determine work requirements and plan and organise work to fulfill such requirements
- identify, select and use equipment and material to complete tasks to specifications
- accurate interpretation and production of lighting as required
- set up and operate lighting console and accessories safely
- monitor and maintain quality of lighting in accordance with specifications
- identify problems promptly and handle them as directed
- completion of lighting-related tasks in accordance with health and safety procedures
- perform testing and quality checks
- source, interpret and apply technical information to work activities
- communicate effectively with others in associated areas
- compliance with relevant Occupational Health and Safety requirements and industry standards
- perform all task in accordance with standard operating procedures, quality requirements and enterprise policies and procedures

### (2) Pre-requisite Relationship of Units

The pre-requisite for this unit is:

- Nil

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- types of lighting consoles
- characteristics and features of lighting consoles
- operating lighting console
- aesthetics and visual appeal of lighting effects
- the general scope and potential of lighting operations within different live production contexts, e.g. theatre, music, corporate
- the relationship between lighting operations and other technical and performance areas, including audio, vision systems and performance
- typical roles and responsibilities of the lighting technicians in different context, including career paths
- lighting system options in a range of venue types
- specialised terminology that applies to lighting operations
- general features of lanterns and accessories, dimmers and control systems
- overview of different types of automated lights and the special requirements of this type of technology, including rigging orientation, powering, requirement for data supply and fixture addressing
- overview of appropriate use of standard pump propelled glycol-based atmospheric (smoke) effects
- organisational and legislative Occupational Health and Safety legislation in particular relation to lighting operations, e.g. electrical restrictions
- colour recognition
- requirements for storage of lighting equipment
- electrical wiring procedures
- lighting equipment handling and installation
- industry regulations and standards
- organisation policies and procedures

Skills

The ability to:

- read and interpret technical information
- plan and organise work
- solve problems
- identify and operate equipment
- install and configure lighting console
- produce desired lighting effects
- conduct test and interpret results
- identify and rectify faults
- communicate effectively
- accurately carry out all recording, reporting and documentation activities
- work safely
- work in compliance with policies and procedures
- apply literacy skills and numeracy skills

**(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)
- request/work sheet
- relevant technical documentation, manuals and manufacturer's specifications
- logs and work reporting documentation
- a range of lighting equipment as identified in the Range Statement
- an environment in which lighting can be set up and operated
- lighting plan for interpretation
- relevant tools, equipment and materials
- enterprise policies and procedures
- legislative, statutory and Occupational Health and Safety requirements
- Industry standards and codes of practice

**(5) Method of Assessment**

Assessment may incorporate a range of methods to assess performance and the application of essential underpinning knowledge, and might include:

- direct observation of the candidate operating lighting console and other related tasks
- evaluation of lighting operations which has been completed by the candidate
- oral or written questioning to assess knowledge of lighting console operations
- review of portfolios of evidence or third party workplace reports of on-the-job performance by the candidate
- practical demonstration of skills through the completion of a range of operational tasks with industry-current lighting console
- project or work activities that allow knowledge to be applied to specific production contexts and situations

Assessment methods should closely reflect workplace demands and the needs of particular groups (e.g. people with disabilities, and people who may have literacy or numeracy difficulties such as speakers of languages other than English, remote communities and those with interrupted schooling).

**(6) Context of Assessment**

Assessment may take place on the job, off the job or a combination of both of these. However, assessment of this unit would most effectively be undertaken on the job due to the specific workplace environment requirements. Off the job assessment must be undertaken in a closely simulated workplace environment.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 2	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 2	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 2	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

## **ECELIG1182A: Prepare and install simple special lighting effects**

Competency Descriptor:

This unit deals with the skills and knowledge required to prepare and install simple special lighting effects for a live production.

Competency Field: Lighting Operations

### **ELEMENT OF COMPETENCY PERFORMANCE CRITERIA**

1. Prepare for work	1.1	Quality assurance requirements of enterprise's lighting production operations are recognised and adhered to.
	1.2	Knowledge of the relevant industry standards and best practices in regards to lighting operations is maintained.
	1.3	Job requirements are accurately identified from lighting plan/drawings and supervisor's instructions.
	1.4	Occupational Health and Safety (OH&S) requirements are identified and adhered to according to application tasks and workplace environment.
	1.5	Safety hazards are accurately identified and correct procedures adopted to minimise risk to self and others.
	1.6	Materials are selected according to supervisor's instructions or lighting plan requirements, safely handled and stored/located and made ready for application.
	1.7	Appropriate personal protective equipment are selected, correctly fitted and used.
	1.8	Tools and equipment selected are consistent with job requirements, checked for serviceability and any faults are corrected within own area of responsibility or are reported to the relevant personnel.
2. Determine requirements and prepare special effects	2.1	Key information is extracted from lighting plans and requirements are confirmed with supervisor in accordance with enterprise policies and procedures.
	2.2	Visual and aesthetic requirements of the production to be achieved by special effects are correctly interpreted and confirmed with the relevant parties.



- 2.3 Range of equipment, accessories and cables required to produce required special effects are determined and are prepared in accordance with manufacturer's specifications and industry codes of practice.
  - 2.4 Lighting equipment are selected that meet production requirements in terms of exposure and colour temperature and rendition.
  - 2.5 A range of ideas is generated for the execution of special effects which provides creative solutions to the technical and production issues at hand.
  - 2.6 Most creative and cost effective means of producing desired special effects is selected and approved by the appropriate personnel
  - 2.7 Equipment, filters, accessories and lighting elements are selected for the production in order to achieve the required results.
  - 2.8 Appropriate lighting software is selected/installed and console programmed appropriately to realise special effects.
3. Install simple special effects
- 3.1 Equipment, control gear and distribution are rigged and installed with due regard to other equipment, participants, public and crew in terms of safety, security of equipment, accessibility and quality of operation.
  - 3.2 Lighting equipment and special effects are positioned taking into account their size, weight, and accessibility for operations and it is ensured that the equipment installed can produce the quality effect required by production.
  - 3.3 Special effects and other lighting elements are tested and adjustments are made as required.
  - 3.4 Appropriate power and signal cables are connected to the special effects and checks are made to ensure that maximum operations are maintained.
  - 3.5 Required documentation is completed as required.

## RANGE STATEMENT

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This unit applies to activities associated with essential operations linked to prepare and install simple special lighting effects

Testing the control system covers:

- ensuring that all operational controls on the lighting board function properly
- ensuring that all dimmer channels are functioning properly
- ensuring that correct control protocols have been selected
- ensuring that correct dimmer profiles have been selected
- ensuring that correct intelligent light software is installed/selected
- ensuring that all peripherals are functioning properly
- ensuring that soft patch has been correctly configured
- ensuring that any riggers or designer controls are functioning properly
- ensuring that there is a valid DMX line/signal

Appropriate personnel may include:

- supervisor
- head of department
- designer
- director
- stage manager
- other specialist staff

Types of production may include:

- concerts
- parties
- feature films
- documentaries
- short films
- animated productions
- commercials
- music video
- television productions of any type (e.g. music, drama, comedy, variety, sport)
- live or pre-recorded television productions

Special lighting effects components may include:

- pracs
- electrical/electronic props
- special effects
- strobes
- mirrorballs and motors
- smoke machines
- fog machines
- ultraviolet light
- chasers
- oil and watercrackers
- effects projectors
- reflectors
- diffusers
- lanterns
- lamps
- dimmers

Control desk peripherals may include:

- monitors
- printers
- external memory storage
- riggers controls
- desk lamps
- control cables effects units and backup units

Oral communication tasks may include:

- selective listening to identify and respond to relevant cues and modifications to cues
- communicating effectively with stage manager, lighting designer, head electrician, maintenance supervisor, follow spot operator and other relevant personnel
- clarifying, interpreting and following instruction
- problem solving
- verbal fault reports
- interpreting organisational and legislative occupational health and safety requirements

Testing of lanterns, accessories and other lighting elements covers:

- ensuring that all equipment is patched correctly
- ensuring that all operational functions are working correctly
- ensuring that correct colour and accessories are fitted
- ensuring that all items that are controlled by the lighting desk are receiving data and are operating correctly

Test equipment may include:

- test lamps
- continuity tester
- analogue or digital multimeters
- DMX
- cable tester

Material to be read and interpreted may include:

- cue sheets
- script
- focus notes
- running sheets
- lighting plan
- patch sheets
- equipment lists
- colour lists
- manuals

Lamps may include:

- incandescent
- discharge
- follow spots
- PAR (parabolic aluminized reflector)
- low voltage lamps

Dimmers may include:

- analogue dimmers
- multiplexed digital dimmers
- multiplexed analogue dimmers
- single unit (follow spot) dimmers e.g. Model 1 or Monopak
- small self contained dimmable controllers e.g. Fourpack, Quadpak

Operating test equipment will require:

- selection of the correct measurement (AC/DC, amperage, voltage, resistance)
- polarity (where relevant)
- range
- correct scale

Material to be written may include:

- fault reports
- accident reports
- cue sheets and modifications to cue sheets (on paper or on screen)
- focus notes
- running sheets

Lanterns may include:

- theatre-based units
- special effects units
- architectural fixtures

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to prepare and install simple special lighting effects in accordance with the performance criteria and the range listed within the range of variables statement.

**(1) Critical Aspects of Evidence**

It is essential that competence be observed in the following aspects:

- demonstrate knowledge of the special lighting effects operations, equipment and processes and the range of applications
- determine work requirements and plan and organise work to fulfill such requirements
- identify, select and use tools, equipment and material to complete tasks to specifications
- recognition of special effects lighting equipment and accessories, including key features and purpose
- produce ideas for creation of special effects solutions
- ability to apply a range of technical lighting knowledge and manual techniques to the preparation and installation of special effects lighting equipment so that the lighting set up meets the production and safety requirements
- handle material and equipment safely
- identify problems promptly and handle them as directed
- completion of lighting-related tasks in accordance with health and safety procedures
- perform testing and quality checks
- completion of tasks within typical workplace time constraints
- practical demonstration of skills through the installation and testing of special effects lighting equipment for an actual production
- source, interpret and apply technical information to work activities
- involvement of and interaction with a team to reflect the collaborative nature of the technical production process
- compliance with relevant Occupational Health and Safety requirements and industry standards
- perform all task in accordance with standard operating procedures, quality requirements and enterprise policies and procedures

**(2) Pre-requisite Relationship of Units**

The pre-requisite for this unit is:

- Nil

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- creating special effects
- range of current industry special effects lighting equipment and accessories
- impact of special lighting effects on a production
- general lighting terms and how terms may vary between different systems or how different terms can refer to the same functions on different systems
- lighting control concepts used in various lighting systems
- main types of lanterns including profile, fresnel, PC, flood, and PAR lamps), their uses and operations (optical and mechanical) and accessories
- basic elements of lighting design
- intelligent lighting software
- problem-solving techniques and their application
- basic maintenance of lighting equipment
- various colour media used in lighting
- DMX protocols
- documentation and back-up systems used in conjunction with lighting control
- aesthetics and visual appeal of lighting effects
- the general scope and potential of lighting operations within different live production contexts, e.g. theatre, music, corporate
- the relationship between lighting operations and other technical and performance areas, including audio, vision systems and performance
- typical roles and responsibilities of the lighting technicians in different context, including career paths
- lighting system options in a range of venue types
- specialised terminology that applies to lighting operations
- general features of lanterns and accessories, dimmers and control systems
- overview of different types of automated lights and the special requirements of this type of technology, including rigging orientation, powering, requirement for data supply and fixture addressing
- overview of appropriate use of standard pump propelled glycol-based atmospheric (smoke) effects
- organisational and legislative Occupational Health and Safety legislation in particular relation to lighting operations, e.g. electrical restrictions
- colour recognition
- requirements for storage of lighting equipment
- electrical wiring procedures
- lighting equipment handling and installation
- industry regulations and standards
- organisation policies and procedures

**Underpinning Knowledge and Skills (Cont'd)**Skills

The ability to:

- read and interpret technical information
- plan and organise work
- solve problems
- create ideas for and prepare special effects
- use and maintain tools and equipment
- install and handle equipment
- conduct test and interpret results
- identify and rectify faults
- accurately carry out all recording, reporting and documentation activities
- work safely
- work in compliance with policies and procedures
- apply numeracy skills sufficient to make mathematical calculations necessary for the safe preparation, installation and testing of equipment
- apply literacy skills sufficient to interpret a lighting plan
- recognize colour
- understand and interpret a range of industry terminology and protocols
- communicate effectively with people from diverse cultural backgrounds
- listen critically and discriminate aurally

**(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)
- request/work sheet
- relevant technical documentation, manuals and manufacturer's specifications
- logs and work reporting documentation
- a range of lighting equipment as identified in the Range Statement
- an environment in which lighting can be set up and operated
- a lighting plan from which the candidate is able to work
- a production and production venue
- relevant tools, equipment and materials
- enterprise policies and procedures
- legislative, statutory and Occupational Health and Safety requirements
- Industry standards and codes of practice

**(5) Method of Assessment**

Assessment may incorporate a range of methods to assess performance and the application of essential underpinning knowledge, and might include:

- direct observation of the candidate using techniques to prepare and install simple special lighting effects
- inspection of lighting effects set up by the candidate to assess workability and safety issues
- oral or written questioning to assess knowledge of preparing and installing simple special lighting effects
- review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate

Assessment methods should closely reflect workplace demands and the needs of particular groups (e.g. people with disabilities, and people who may have literacy or numeracy difficulties)

Simulated activities must closely reflect the workplace.

**(6) Context of Assessment**

This unit may be assessed on or off the job. Assessment should include practical demonstration either in the workplace or through a simulation. A range of methods to assess underpinning knowledge should support this.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>• Carries out established processes</li> <li>• Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Manages process</li> <li>• Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>• Establishes principles and procedures</li> <li>• Evaluates and reshapes process</li> <li>• Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 2	
Communicate ideas and information	Level 2	
Plan and organise activities	Level 2	
Work with others and in team	Level 2	
Use mathematical ideas and techniques	Level 2	
Solve problems	Level 2	
Use technology	Level 2	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

## **ECEGEN0011A: Handle physical elements safely during bump in/bump out**

### Competency Descriptor:

This unit deals with the skills and knowledge required to assemble, pack and load/unload physical elements under supervision for any production within the cultural industries. This unit is introductory in nature and focuses on safe manual handling and general knowledge of the bump in/bump out process and types of equipment.

Competency Field: Entertainment

<b>ELEMENT OF COMPETENCY</b>	<b>PERFORMANCE CRITERIA</b>
1. Prepare physical elements for transportation	<p>1.1 Physical elements are assembled/dismantled in the correct order in accordance with instructions to ensure ease of packing, loading, unloading and installation.</p> <p>1.2 Physical elements are safely packed using appropriate techniques and materials to avoid damage during transportation.</p> <p>1.3 Any tools required for bump in/bump out are correctly identified, prepared and packed.</p>
2. Load/unload physical elements	<p>2.1 Physical elements are loaded/unloaded in the required order taking care to avoid damage.</p> <p>2.2 Safe manual handling techniques are used throughout the loading/unloading process to avoid injury or damage.</p> <p>2.3 Physical elements are installed or positioned in appropriate work or storage area in accordance with directions.</p> <p>2.4 Any hazardous items are accurately identified and these are loaded in a manner which minimises health and safety risks.</p> <p>2.5 Load is inspected prior to transportation to ensure that all items are loaded appropriately and adjustments are made as required.</p> <p>2.6 Work areas are cleared and cleaned in accordance with organisational procedures.</p>



3. Check condition of physical elements
- 3.1 The condition of physical elements is checked to ensure that no damage has occurred during bump-in/bump-out.
- 3.2 Any repairs required are accurately identified and reported to the appropriate personnel for action using correct documentation as required.

## RANGE STATEMENT

The following explanations identify how this unit may be applied in different workplaces, sectors and circumstances.

Physical elements may include any equipment or materials commonly used for an entertainment production, for example:

- sets
- lighting equipment
- audio equipment
- props
- scenic art
- costumes

Transportation may be required:

- within a venue
- between different venues
- by road
- by rail
- by air
- by sea

Appropriate personnel may include:

- supervisors/managers
- technical staff
- event/production managers
- stage managers

Packing/loading techniques may include:

- use of restraints
- particular ways of handling different equipment
- use of protective coverings

Packing materials may include:

- road cases
- boxes
- crates
- wardrobe skips
- tape
- rope
- straps
- bubble wrap
- tissue paper
- labels
- bush blankets

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to handle physical elements safely during bump in/bump out in accordance with the performance criteria and the range listed within the range of variables statement.

### (1) Critical Aspects of Evidence

The following evidence is critical to the judgement of competence in this unit:

- knowledge of safe manual handling techniques for various types of equipment
- ability to move, pack and load equipment under instruction using safe manual handling techniques
- compliance with enterprise policies and procedures, industry standards and practices and relevant regulatory requirements

### (2) Pre-requisite Relationship of Units

The pre-requisite for this unit is:

- Nil

### (3) Underpinning Knowledge and Skills

#### Knowledge

Knowledge of:

- the bump in/bump out process for different types of production, including typical procedures and processes and the roles and responsibilities of different personnel
- the typical physical elements used for different types of production
- typical locations for different physical elements within a production venue
- safe manual handling techniques and the broader safety issues associated with the movement of physical elements
- relevant organisational and/or legislative Occupational Health and Safety requirements
- packing materials and techniques used for different types of equipment
- techniques for loading and stowing equipment for safe transportation
- the range of tools commonly required during the bump in/bump out process

#### Skills

The ability to:

- read simple work instructions, equipment lists and safety directions
- count/tally equipment and other physical elements
- work with others
- work safely

**(4) Resource Implications**

Assessment of this unit requires access to:

- a venue or location for bump in/bump out
- a range of equipment typically used for a production
- transportation into which equipment can be loaded
- enterprise policies and procedures
- industry standards and best practices

**(5) Method of Assessment**

Assessment may incorporate a range of methods to assess performance and the application of essential underpinning knowledge, and might include:

- direct observation of the candidate packing, loading or unloading equipment during a bump in/bump out
- oral or written questioning to assess knowledge of equipment types and features, safety issues
- case studies or problem solving exercises to assess the candidate's ability to respond to different operational situations and contexts
- review of portfolios of evidence and third party workplace reports of on-the job performance by the candidate

**(6) Context of Assessment**

Assessment may take place on the job, off the job or a combination of both of these. However, assessment of this unit would most effectively be undertaken on the job due to the specific workplace environment requirements. Off the job assessment must be undertaken in a closely simulated workplace environment.

The assessment context must provide for:

- practical demonstration of skills through the packing, loading and positioning of physical elements required in a given production
- involvement of and interaction with a team during the bump in/bump out process

## CRITICAL EMPLOYABILITY SKILLS

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Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

## ECEGEN0021A: Move and set up instruments and equipment

Competency Descriptor:

This unit deals with the skills and knowledge required to load and transport instruments and/or equipment to a venue, and set up those instruments at the venue for any production in the cultural industries.

Competency Field: Entertainment

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Plan for the safe manual handling of instruments and equipment	1.1 The correct placing of equipment and instruments is determined through communications with performers, head of technical crew and/or musical director as required. 1.2 Plans are verified with designated personnel where required before loading in or loading out. 1.3 Moving devices are secured where possible to assist personnel. 1.4 The order in which equipment will be moved is confirmed with the designated personnel where required. 1.5 Any special conditions of the job are confirmed. 1.6 All likely problems associated with moving instruments and equipment are determined and tasks are verified with all relevant personnel.
2. Use clothing and accessories for protection	2.1 It is ensured that a first aid kit is available at all times and that all essential items for the kit are always on hand. 2.2 Appropriate clothing is worn to protect the body. 2.3 Lifting equipment or accessories are used where required in accordance with Occupational Health and Safety principles.
3. Load and/or unload a van or truck with equipment	3.1 Verification is made of all the items to be packed and packaging is done in a manner to minimise movement in transit. 3.2 Checks are made to ensure that gear is packed in the appropriate order taking account of weight, fragility and unloading requirements.

- |    |   |  |
|----|---|--|
|    | 3.3                                       | Packaging is done to distribute weight evenly, front to back and left to right.  |
| 4. | Move and set up instruments and equipment | 4.1 It is ensured that instruments, equipment and personnel are protected against damage, loss or injury while they are being moved and set up.                                    |
|    | 4.2                                       | Assistance is given to the setting up of the instruments and equipment according to agreed plans and in ensuring the safety of players, crew, front of house staff and the public. |
|    | 4.3                                       | It is ensured that all cables are gaffer taped securely in traffic cable areas.  |
| 5. | Disassemble sound equipment after use     | 5.1 Assistance is given to the safe de-rigging of equipment.   |
|    | 5.2                                       | Any lost or damaged equipment is reported to the appropriate personnel.  |
|    | 5.3                                       | Cabling is stored tidily and methodically and checks are made to ensure that all equipment is accounted for before packing.  |
|    | 5.4                                       | The working environment is left clean after use.   |
|    | 5.5                                       | Problems are dealt with promptly and effectively.  |
|    | 5.6                                       | Occupational Health and Safety principles are applied at all stages and safe lifting and handling is observed.   |

## RANGE STATEMENT

This unit applies to activities associated with the essential operations linked to moving and setting up instrument and equipment.

Instruments and equipment include:

- musical instruments
- instrumental accessories, cases and spare parts
- sound equipment and cabling
- stands
- lighting equipment

Special conditions of the job may include:

- stairs
- narrow spaces
- environmental factors
- traffic
- safety hazards
- crowds

Protective clothing may include:

- safety shoes
- ear plugs or earmuffs
- protective gloves

Statutory regulations may include:

- local
- national
- Occupational Health and Safety

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to move and set up instrument and equipment in accordance with the performance criteria and the range listed within the range of variables statements.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate knowledge of Occupational Health and Safety principles
- safe handling of heavy materials and use of appropriate protective gear/equipment
- ability to confirm and follow instructions
- follow installation procedures safely and perform relevant testing and checks
- compliance with Occupational Health and Safety regulations

### (2) Pre-requisite Relationship of Units

The pre-requisite for this unit is:

- Nil

### (3) Underpinning Knowledge and Skills

#### Knowledge

Knowledge of:

- relevant principles and regulations of occupational health and safety, especially safe lifting
- technical cues
- care and security of instruments and equipment
- transporting and packaging procedures
- rigging and de-rigging equipment
- use of moving devices
- reporting procedures
- relevant installation procedures
- relevant testing procedures

#### Skills

The ability to:

- follow simple technical cues where relevant
- communicate clearly to achieve planned outcomes
- work effectively with others
- set priorities
- select and using available technology appropriate to the task
- ensure the care and security of instruments and equipment
- use moving devices
- complete documentation
- install and test instruments/equipment

**(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)
- relevant instruments and/or equipment
- relevant protective gear/accessories

**(5) Method of Assessment**

Assessment methods must confirm consistency of performance over time and in a range of workplace relevant contexts.

Evidence may be collected in a variety of ways including:

- direct observation
- oral questioning
- written test
- evaluation of previous work
- testimonials from clients
- evaluation of qualifications/portfolio/awards/resume/workplace documents
- authenticated assessments and/or assignments from relevant training courses
- supporting statement from supervisor or previous employer

Assessment should be conducted over time and will generally be in conjunction with assessment of other units of competency.

Simulated activities must closely reflect the workplace.

**(6) Context of Assessment**

Assessment may take place on the job, off the job or a combination of both of these. However, assessment of this unit would most effectively be undertaken on the job due to the specific workplace environment requirements. Off the job assessment must be undertaken in a closely simulated workplace environment.



## CRITICAL EMPLOYABILITY SKILLS

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Levels of Competency		
Level 1.	Level 2.	Level 3.
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Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**ECEGEN0311A: Perform manual lifting and handling**

Competency Descriptor:

This unit deals with the skills and knowledge required to effectively undertake manual lifting and handling operations in a range of work settings in the entertainment and cultural products industry.

Competency Field:

Entertainment and culture

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Plan and prepare work	<p>1.1 Occupational Health and Safety (OH&amp;S) requirements for tasks and workplace environment are recognised and adhered to.</p> <p>1.2 Location and scope of manual lifting and handling work accurately determined from job drawings or supervisor's instructions.</p> <p>1.3 Appropriate personal protective equipment selected, correctly fitted and used.</p> <p>1.4 Tools and equipment selected consistent with job requirements, checked for serviceability and any faults reported to supervisor.</p> <p>1.5 Load to be lifted and handle manually are accurately identified from work instructions.</p> <p>1.6 Potential hazards are recognised and appropriate steps are taken to eliminate them as required.</p>
2. Lift and handle load manually	<p>2.1 Load weight is determined correctly utilising most appropriate technique.</p> <p>2.2 Correct lifting techniques are undertaken in compliance with Occupational Health and Safety requirements.</p> <p>2.3 Manual handling procedures are followed according to enterprise practices and procedures and Occupational Health and Safety requirements.</p>
3. Move/shift load manually	<p>3.1 Appropriate equipment are selected consistent with requirements of job.</p> <p>3.2 Load is placed safely and securely on moving equipment in accordance with safety requirements.</p>

- 3.3 Load is relocated to designated location while ensuring safety of personnel and security and integrity of load.
- 3.4 Load is safely unloaded from moving equipment and placed in a safe and secure manner.

## RANGE STATEMENT

The following explanations identify how this unit may be applied in different workplaces, sectors and circumstances.

Personal protective equipment may include:

- overalls
- jacket
- boots
- hard hat
- safety glasses
- gloves
- ear plugs/muffs
- dust masks

Load may include:

- instruments
- equipment
- material
- physical elements
- props

Occupational Health and Safety requirements may include:

- safe handling and lifting techniques
- emergency, fire and accident
- hazard identification and control
- use of personal protective clothing and equipment
- safe sitting, lifting and handling
- security of documents, cash, equipment, people
- key control systems
- safe use of electrical equipment
- use of material safety data sheets
- safe use of chemicals and toxic substances
- safe construction of rigs and supports

Moving/shifting equipment may include but not limited to:

- hand trolleys
- wheelbarrows
- motorised/hand pallet trucks (not sit on),
- hand carts
- dedicated production or process lifting equipment
- baskets
- spreader bars
- cradles or the like attached to lifting equipment
- rope
- block and tackle
- rigging

Handling techniques may include:

- use of protective packaging material
- avoiding falls and spillages
- avoiding collisions with other objects
- use of gloves and other protective gear
- use of handles and slings

Lifting techniques may include:

- undertaking appropriate body posture
- use of braces and harnesses
- use of lifting devices to aid elevation of load
- involvement of other parties

Determining weight of material may include:

- use of scales
- interpretation of signage
- estimation

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to perform manual lifting and handling in accordance with the performance criteria and the range listed within the range of variables statement.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- apply knowledge of safe handling and lifting techniques
- demonstrate safe and effective operational use of lifting equipment, tools, and attachments
- demonstrate correct procedures in manual handling
- pay particular attention to safety and elimination of hazards
- demonstrate safe lifting and movement of load
- interactively communicate with others to ensure safe operations
- demonstrate effective handling and lifting technique to produce designed outcome
- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- show compliance with organizational policies and procedures including Quality Assurance requirements

### (2) Pre-requisite Relationship of Units

The pre-requisite for this unit is:

- Nil

### (3) Underpinning Knowledge and Skills

#### Knowledge

Knowledge of:

- load handling, transportation and storage techniques
- safe manual handling and lifting technique(s)/methods
- handling tools and equipment
- preparing load for movement
- weight determination
- types of load handling and movement processes
- drawings, sketches, signage and instructions
- workplace and equipment safety requirements including relevant OH&S guidelines and regulations

## **Underpinning Knowledge and Skills (Cont'd)**

### Skills

The ability to:

- work safely to instructions
- communicate effectively
- interpret related drawings signage and instructions
- use appropriate tools and equipment
- identify and eliminate hazards
- identify/select appropriate lifting and handling method
- handle loads, tools and equipment
- determine weights
- identify/select equipment to move load
- read and write

### **(4) Resource Implications**

The following resources should be made available:

- all tools, equipment, materials and documentation required
- any relevant workplace procedures
- any relevant codes, standards, manuals and reference materials

### **(5) Method of Assessment**

Assessment may incorporate a range of methods to assess performance and the application of essential underpinning knowledge, and might include:

- direct observation of the candidate packing, loading or unloading equipment during a bump in/bump out
- oral or written questioning to assess knowledge of equipment types and features, safety issues
- case studies or problem solving exercises to assess the candidate's ability to respond to different operational situations and contexts
- review of portfolios of evidence and third party workplace reports of on-the job performance by the candidate

### **(6) Context of Assessment**

Assessment may take place on the job, off the job or a combination of both of these. However, assessment of this unit would most effectively be undertaken on the job due to the specific workplace environment requirements. Off the job assessment must be undertaken in a closely simulated workplace environment.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**ECEGEN0321A: Erect and dismantle scaffolding**

Competency Descriptor:

This unit deals with the skills and knowledge required to effectively and safely erect and dismantle scaffolding at specified height.

Competency Field:

Entertainment and culture

**ELEMENT OF COMPETENCY PERFORMANCE CRITERIA**

1. Plan and prepare work	1.1	Location and scope of scaffolding/equipment determined from job drawings or supervisor's instructions.
	1.2	Scaffolding/equipment components selected consistent with requirements of job.
	1.3	Appropriate personal protective equipment selected, correctly fitted and used.
	1.4	Tools and equipment selected consistent with job requirements, checked for serviceability and any faults reported to supervisor.
	1.5	Occupational Health and Safety (OH&S) requirements for tasks and workplace environment recognised and adhered to.
2. Erect safety barriers	2.1	Safety barriers erected, where applicable, to isolate site work area.
	2.2	Relevant signage installed where required to Occupational Health and Safety (OH&S) requirements.
3. Erect scaffolding	3.1	All work undertaken safely and to supervisor's prescribed procedures.
	3.2	Erection site prepared to meet job requirements.
	3.3	Necessary signage prepared to meet job requirements.
	3.4	Scaffolding/equipment erected to plan in accordance with safe work practices, Occupational Health and Safety (OH&S) and manufacturers requirements.
4. Dismantle scaffolding	4.1	Work undertaken safely and according to reverse procedures for erecting.
	4.2	Scaffolding/equipment dismantled in accordance with site procedures and critical structural safety requirements.

- |    |          |     |  |
|----|----------|-----|--|
| 5. | Clean up | 5.1 | Site cleaned and cleared of all tools, excess material and waste and left in safe condition. |
|    |          | 5.2 | Tools and equipment cleaned, maintained and stored.  |

## RANGE STATEMENT

The following explanations identify how this unit may be applied in different workplaces, sectors and circumstances.

Information relating to location and scope of scaffolding equipment may include:

- type of equipment required
- height
- work site
- purpose of scaffolding

Personal protective equipment may include:

- overalls
- jacket
- boots
- hard hat
- safety glasses
- gloves
- ear plugs/muffs
- dust masks

The range of scaffolding equipment includes:

- standing prefabricated tower scaffolds
- tube and fitting scaffolds
- fall protection devices
- catch platforms
- bracket scaffolds

Occupational Health and Safety requirements may include:

- safe handling and lifting techniques
- emergency, fire and accident
- hazard identification and control
- use of personal protective clothing and equipment
- safe sitting, lifting and handling
- security of documents, cash, equipment, people
- key control systems
- safe use of electrical equipment
- use of material safety data sheets
- safe use of chemicals and toxic substances
- safe construction of rigs and supports

Preparation of erection site may include:

- leveling ground
- preparing solid foundation
- removal of obstacles
- isolating work site

Tools and equipment may include:

- spanners
- shovels
- hammers
- picks
- crow bars
- ladders

Supervision instruction may involve:

- verbal direction/instruction
- written instruction
- provision of sketch/drawing and details



## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to safely and effectively erect and dismantle scaffolding in accordance with the performance criteria and the range listed within the range of variables statement.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate knowledge of scaffolding erection and dismantling processes
- carry out correct procedures prior to and during application of scaffolding erection and dismantling process
- demonstrate safe and effective operational use of scaffolding tools and equipment
- erect scaffolding plumb and brace for stability
- interactively communicate with others to ensure safe and effective erection and dismantling operations
- indicate compliance with organisational policies and procedures including Quality Assurance requirements
- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- compliance with legislative, regulatory and industry requirements, standards and guidelines

### (2) Pre-requisite Relationship of Units

The pre-requisite for this unit is:

- Nil

### (3) Underpinning Knowledge and Skills

#### Knowledge

Knowledge of:

- scaffolding and basic working platforms
- hand tools
- materials
- materials handling
- vertical and horizontal triangular concepts
- workplace and equipment safety requirements
- scaffolding erection and dismantling procedures
- work site safety
- Occupational Health and Safety, regulatory and legislative requirements
- industry standards and guidelines

#### Skills

The ability to:

- erect and dismantle scaffolding
- prepare and isolate work site
- work safely to instructions
- select and use hand tools
- handle material
- select material
- communicate effectively

**(4) Resource Implications**

The following resources should be made available:

- work instructions/drawings
- materials appropriate for scaffolding
- relevant hand tools and equipment
- suitable work area appropriate to the scaffolding erection and dismantling process
- Occupational Health and Safety, regulatory and legislative requirements
- industry standards and guidelines

**(5) Method of Assessment**

Assessment may incorporate a range of methods to assess performance and the application of essential underpinning knowledge, and might include:

- direct observation of the candidate packing, loading or unloading equipment during a bump in/bump out
- oral or written questioning to assess knowledge of equipment types and features, safety issues
- case studies or problem solving exercises to assess the candidate's ability to respond to different operational situations and contexts
- review of portfolios of evidence and third party workplace reports of on-the job performance by the candidate

**(6) Context of Assessment**

Assessment may take place on the job, off the job or a combination of both of these. However, assessment of this unit would most effectively be undertaken on the job due to the specific workplace environment requirements. Off the job assessment must be undertaken in a closely simulated workplace environment.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpins effective workplace practices.

Levels of Competency		
Level 1	Level 2	Level 3
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

## **ECELIG1191A: Perform basic repairs to electrical/electronic systems**

### Competency Descriptor:

This unit deals with the skills and knowledge required for the confirmation of predictable faults and repair of such faults by repair or replacement of mechanical components and replacement of discrete and integrated components of business electronic equipment. It encompasses safe working practices, following written and oral instruction and routine testing and repair procedures, verifying equipment operation and reporting.

### Competency Field: Lighting Operations

<b>ELEMENT OF COMPETENCY</b>	<b>PERFORMANCE CRITERIA</b>
1. Prepare to repair electrical/electronic system	1.1 Occupational Health and Safety (OHS) procedures for a given work area are identified, obtained and understood through established routines and procedures.
	1.2 Established OHS risk control measures and procedures are followed in preparation for the work.
	1.3 The nature of the repair is obtained from documentation or from work supervisor or customer to establish the scope of work to be undertaken.
	1.4 Advice is sought from the work supervisor to ensure the work is co-ordinated effectively with others.
	1.5 Sources of materials that may be required for the work are established in accordance with established routines and procedures.
	1.6 Tools, apparatus and testing devices needed to carry out the work are obtained and checked for correct operation and safety.
2. Repair electrical/electronic system	2.1 Established OHS risk control measures and procedures for carrying out the work are followed.
	2.2 The need to test or measure live is determined in strict accordance with OHS requirements and when necessary conducted within established safety procedures.
	2.3 Circuits/equipment are checked as being isolated where necessary in strict accordance OHS requirements and procedures.

- 2.4 Predictable faults are confirmed by following routine testing procedures.
  - 2.5 Electrical/electronic system and associated apparatus are dismantled in accordance with manufacturer's service guide and supervisor's instructions.
  - 2.6 Component parts are tagged during the dismantling to help ensure correct and efficient reassembly and stored to protect them against loss or damage.
  - 2.7 Repairs are made in accordance with manufacturer's service guide and supervisor's instructions.
  - 2.8 Electrical/electronic system and apparatus are assembled in an appropriate sequence with all components parts placed, secured and connected in accordance with manufacturer's guide or industry practice.
  - 2.9 Repaired electrical/electronic system is test in accordance with routine procedures to verify that it functions correctly.
  - 2.10 Procedures for referring non-routine events to immediate supervisor for directions are followed.
  - 2.11 Repairs are carried out efficiently without waste of materials or damage to apparatus and the surrounding environment or services and using sustainable energy practices.
3. Complete and report repair work activities
- 3.1 OHS work completion risk control measures and procedures are followed.
  - 3.2 Work area is cleaned and made safe in accordance with established procedures.
  - 3.3 Equipment is place into service and customer and work supervisor notified of the completion of the repair work in accordance with routine procedures.
  - 3.4 Service report is complete in accordance with routine procedures.

## RANGE STATEMENTS

This relates to the unit as a whole providing the range of contexts and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

Material may include:

- cable
- solder
- connectors
- straps
- electrical tape

Faults may include:

- damaged circuit boards
- damaged cables
- improper connections
- shorts and noise in circuits

Repairs may include:

- repairs to wiring systems
- repairs to circuits
- repairs to components
- removal and replacement of components
- removal and replacement of printed circuit boards
- installation and set up of system components
- using test equipment to locate and isolate causes of problems
- cleaning and restoring unit to specification
- repairing broken appliances cases

Workplace policies and procedures may include:

- hazard control policies and procedures
- emergency, fire and accident procedures
- personal safety procedures
- procedures for the use of personal protective clothing and equipment
- conflict resolution procedures
- job procedures
- work instructions
- quality procedures
- environmental procedures

Occupational Health and Safety requirements may include:

- personal protective clothing and equipment
- hazard control policies and procedures
- emergency, fire and accident procedures
- safe handling and lifting procedures
- use and disposal of chemicals
- ergonomic considerations
- safe usage and storage of tools, material and equipment
- safe working environment

Electrical/electronic systems may include:

- lighting control systems
- audio-visual systems
- lighting and power systems
- communication systems
- data communication systems
- computer systems

Material to be read and interpreted may include:

- lists of faults
- operating manuals and maintenance instructions
- design specifications

Documentation and reporting may include:

- listing of faults
- written reports
- verbal reports

Tools and equipment may include:

- pliers
- screwdrivers
- hammers
- multimeter
- soldering iron

## EVIDENCE GUIDE

This provides essential advice for assessment of the unit and must be read in conjunction with the performance Criteria and the Range Statement of the unit.

### (1) Critical Aspects and Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- show compliance with organisational quality procedures and processes within the context of repairing electrical/electronic system
- accurate diagnosis of faults
- adopt safe and effective procedures to dismantle, repair and reassemble electrical/electronic system and apparatus
- select and use appropriate procedures, tools and equipment
- adherence to appropriate testing procedures
- removing and replacing mechanical and electrical/electronic components
- preparing work area for work and performing housekeeping duties after work is completed
- refer repairs outside scope of responsibility to appropriate personnel
- carry out proper documentation and reporting procedures
- complete repairs and maintenance operations to specification
- interactively communicate with others to ensure safe and effective repair and maintenance tasks

### (2) Pre-requisite Relationship of Units

The pre-requisite for this unit is:

- Nil

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- electronic/electrical principles
- types of components of electrical/electronic systems and their capabilities
- fault diagnosis
- basic system design
- electronic cable and conductor terminations
- enterprise communication methods
- electrical/electronic systems software basics
- safety precautions relating to three wire line plugs, cords and receptacles
- standards of quality
- maintenance schedules and specifications
- tools and testing equipment
- basic testing techniques
- basic electrical test
- basic electronic apparatus
- basic electronic circuits
- basic electronic components
- connection of wiring
- bonding/fixing methods
- appliance connectors
- types of cords, wire sizes and plugs
- termination and connection types
- termination and connection methods
- basic electrical/electronic faults (short circuit, open circuit, defective resistors etc)
- operational concepts of electrical/electronic systems
- electro-mechanics of business machines
- Occupational Health and Safety principles
- electronic safe working practices
- industry standards
- legislative and regulatory requirements

Skill

The ability to:

- dismantle, repair and reassemble equipment and systems
- diagnose faults
- perform tests
- read and interpret documentation and manuals
- accurately and concisely summarise and convey information orally and/or in writing
- calculate accurately
- work safely
- organise work
- use appropriate tools and equipment



**(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)
- request/work sheet
- relevant technical documentation, manuals and manufacturer's specifications
- logs and work reporting documentation
- electrical/electronic systems
- repair and testing tools , equipment and materials
- enterprise policies and procedures
- legislative, statutory and Occupational Health and Safety requirements
- Industry standards and codes of practice

**(5) Method of Assessment**

Assessment may incorporate a range of methods to assess performance and the application of essential underpinning knowledge, and might include:

- direct observation of the candidate completing repair work on a range of electrical/electronic systems
- evaluation of electrical/electronic systems which has been repaired and maintained by the candidate
- oral or written questioning to assess knowledge relating to electrical/electronic systems repairs
- review of portfolios of evidence or third party workplace reports of on-the-job performance by the candidate
- practical demonstration of skills through the completion of a range of repair and testing activities
- project or work activities that allow knowledge to be applied to specific production contexts and situations

Assessment should be conducted over time and will generally be in conjunction with assessment of other units of competency.

Simulated activities must closely reflect the workplace.

**(6) Context of Assessment**

Assessment may take place on the job, off the job or a combination of both of these. However, assessment of this unit would most effectively be undertaken on the job due to the specific workplace environment requirements. Off the job assessment must be undertaken in a closely simulated workplace environment.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

## ECELIG1201A: Repair electrical fixtures

### Competency Descriptor:

This unit deals with the skills and knowledge required for fault finding and repairing of general electrical fixtures. The unit encompasses safe working practices, consulting service manuals, interpreting circuit diagrams, applying logical fault finding procedures, conducting repairs, safety and functional testing and completing the necessary service documentation.

### Competency Field: Lighting Operations

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Prepare to find and repair faults	1.1 Occupational Health and Safety (OHS) procedures for a given work area are identified, obtained and understood.
	1.2 OHS risk control measures and procedures are followed in preparation for the work.
	1.3 The nature of the fault is obtained from documentation or from work supervisor to establish the scope of work to be undertaken.
	1.4 Advice is sought from the work supervisor to ensure the work is co-ordinated effectively with others.
	1.5 Sources of materials that may be required for the work are established in accordance with established procedures.
	1.6 Tools, equipment and testing devices needed to carry out the work are obtained in accordance with established procedures and checked for correct operation and safety.
2. Find faults	2.1 OHS risk control measures and procedures for carrying out the work are followed.
	2.2 The need to test or measure live is determined in strict accordance with OHS requirements and when necessary conducted within established safety procedures.
	2.3 Apparatus is checked as being isolated where necessary in strict accordance OHS requirements and procedures.
	2.4 Fault finding is approached methodically drawing on knowledge of electrical/electronic circuits using measured and calculated values of electrical fixtures parameters.

- |    |   |  |
|----|---|--|
|    | 2.5                                     | Fixtures components are dismantled where necessary and parts stored to protect them against loss or damage   |
|    | 2.6                                     | Faulty components are rechecked and their fault status confirmed.  |
|    | 2.7                                     | Effectiveness of the repair is tested in accordance with established procedures.   |
|    | 2.8                                     | Apparatus is reassembled, finally tested and prepared for return to customer.  |
|    | 2.9                                     | Unexpected situations are dealt with safely and with the approval of an authorised person.   |
|    | 2.10                                    | Fault finding activities are carried out efficiently without waste of materials or damage to apparatus and the surrounding environment or services and using sustainable energy practices. |
| 3. | Completion and report repair activities |  |
|    | 3.1                                     | OHS work completion risk control measures and procedures are followed.   |
|    | 3.2                                     | Work area is cleaned and made safe in accordance with established procedures.  |
|    | 3.3                                     | Written justification is made for repairs to apparatus.  |
|    | 3.4                                     | Work completion is documented and an appropriate person or persons notified in accordance with established procedures.   |

## RANGE STATEMENTS

This relates to the unit as a whole providing the range of contexts and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

Tools and equipment may include:

- pliers
- screwdrivers
- hammers
- multimeter
- soldering iron

Material may include:

- cable
- solder
- connectors
- straps
- electrical tape

Repairs may include:

- repairs to wiring systems
- repairs to circuits
- repairs to components
- removal and replacement of components
- removal and replacement of printed circuit boards
- installation and set up of system components
- using test equipment to locate and isolate causes of problems
- cleaning and restoring unit to specification
- repairing broken appliances cases

Workplace policies and procedures may include:

- hazard control policies and procedures
- emergency, fire and accident procedures
- personal safety procedures
- procedures for the use of personal protective clothing and equipment
- conflict resolution procedures
- job procedures
- work instructions
- quality procedures
- environmental procedures

Electrical fixtures may include:

- light switches including motion sensor, remote controlled and programmable switches
- electrical lamps and lights
- voltage regulators
- plugs and sockets
- adaptable plugs
- circuit breakers
- surge protectors and power strips
- solar panels
- insulators and terminals

Occupational Health and Safety requirements may include:

- personal protective clothing and equipment
- hazard control policies and procedures
- emergency, fire and accident procedures
- safe handling and lifting procedures
- use and disposal of chemicals
- ergonomic considerations
- safe usage and storage of tools, material and equipment
- safe working environment

## EVIDENCE GUIDE

This provides essential advice for assessment of the unit and must be read in conjunction with the performance Criteria and the Range Statement of the unit.

### (1) Critical Aspects and Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- show compliance with organizational policies and procedures including Quality Assurance requirements
- adopt and carry out correct procedures prior to undertaking task
- demonstrate safe and effective operational use of tools and equipment
- use methodical fault finding techniques and finding faults efficiently
- replacing components without damage
- providing written justification for the repairs

**CRITICAL ASPECTS AND EVIDENCE (CONT'D)**

- demonstrate correct procedures in repairing faults in electrical fixtures
- give particular attention to safety and elimination of hazards
- demonstrate safe handling/storage of material/supplies
- interactively communicate with others to ensure safe operations
- dealing with unplanned events by drawing on essential knowledge and skills to provide appropriate solutions incorporated in a holistic assessment with the above listed items

**(2) Pre-requisite Relationship of Units**

The pre-requisite for this unit is:

- Nil

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- electrical circuitry
- electrical principles
- power rating
- types of electrical cables
- electrical fixtures and their features
- regulatory standards
- usage and maintenance of tools and equipment
- joining and bonding methods
- types of joints
- conduit installation
- termination and connection methods
- installation methods
- electrical equipment and their characteristics
- enterprise policies and procedures
- quality requirements
- environmental protection
- industry standards and codes of practice
- relevant legislation from all levels of government that affects business operation

Skill

The ability to:

- apply occupational health and safety standards
- follow relevant statutory regulations and codes of practice
- use and update plans
- use drawings and texts
- use tools and relevant equipment
- use test and measurement instruments
- verify and identify faults
- use appropriate fault finding and diagnostic techniques
- repair faults
- select materials for the job
- apply regulatory procedures
- apply electrical principles
- communicate effectively
- apply data analysis techniques and tools
- apply engineering and electrical workshop practices

Knowledge

Knowledge of:(Cont'd)

- automatic data capture
- biometric devices
- electronic components and systems and their applications in electrical fixtures
- Occupational Health and Safety principles

**(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)
- tools, equipment, materials and documentation required
- relevant product and manufacturing specifications
- relevant codes, standards, manuals and reference materials
- enterprise policies and procedures
- legislative, statutory and Occupational Health and Safety requirements
- Industry standards and codes of practice

**(5) Method of Assessment**

Assessment may incorporate a range of methods to assess performance and the application of essential underpinning knowledge, and might include:

- direct observation of the candidate completing repair work on a range of electrical fixtures
- evaluation of electrical fixtures which has been repaired and maintained by the candidate
- oral or written questioning to assess knowledge relating to electrical fixtures repairs
- review of portfolios of evidence or third party workplace reports of on-the-job performance by the candidate
- practical demonstration of skills through the completion of a range of repair and testing activities
- project or work activities that allow knowledge to be applied to specific production contexts and situations

Assessment should be conducted over time and will generally be in conjunction with assessment of other units of competency.

Simulated activities must closely reflect the workplace.

**(6) Context of Assessment**

Assessment may take place on the job, off the job or a combination of both of these. However, assessment of this unit would most effectively be undertaken on the job due to the specific workplace environment requirements. Off the job assessment must be undertaken in a closely simulated workplace environment.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
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Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.



**ITICQR0011A: Carry out data entry and retrieval procedures**

## Competency Descriptor:

This unit deals with the skills and knowledge required to operate computer to enter, manipulate and retrieve data and to access information and communicate via the Internet.

Competency Field: Information Technology and Communications - Operations

**ELEMENT OF COMPETENCY PERFORMANCE CRITERIA**

1. Initiate computer system	1.1	Equipment and work environment are correctly checked for readiness to perform scheduled tasks.
	1.2	The hardware components of the computer and their functions are correctly identified.
	1.3	Equipment is powered up correctly.
	1.4	Access codes are correctly applied.
	1.5	Appropriate software is selected or loaded from the menu.
2. Enter data	2.1	Types of data for entry correctly identified and collected.
	2.2	Input devices selected and used are appropriate for the intended operations.
	2.3	Manipulative procedures of Input device conform to established practices.
	2.4	Keyboard/mouse is operated within the designated speed and accuracy requirements.
	2.5	Computer files are correctly located or new files are created, named and saved.
	2.6	Data is accurately entered in the appropriate files using specified procedure and format.
	2.7	Data entered is validated in accordance with specified procedures.
	2.8	Anomalous results are corrected or reported in accordance with specified procedures.
	2.9	Back-up made in accordance with operating procedures.

- 3. Retrieve data
  - 3.1 The identity and source of information is established.
  - 3.2 Authority to access data is obtained where required.
  - 3.3 Files and data are correctly located and accessed.
  - 3.4 Integrity and confidentiality of data are maintained.
  - 3.5 The relevant reports or information retrieved using approved procedure.
  - 3.6 Formats to retrieved report or information conform to that required.
  - 3.7 Copy of the data is printed where required.
- 4. Amend data
  - 4.1 Source of data/information for amendment is established.
  - 4.2 Data to be amended is correctly located within the file.
  - 4.3 The correct data/Information is entered, changed or deleted using appropriate input device and approved procedures.
  - 4.4 The Integrity of data is maintained.
- 5. Use document layout and data format facilities
  - 5.1 Requirements for document are verified where necessary.
  - 5.2 The given format and layout are appropriately applied.
  - 5.3 Facilities to achieve the desired format and layout are correctly identified, accessed and used.
  - 5.4 Data manipulating facilities are used correctly.
  - 5.5 Format reflects accuracy and completeness.
- 6. Monitor the operation of equipment
  - 6.1 The system is monitored to ensure correct operation of tasks.
  - 6.2 Routine system messages are promptly and correctly dealt with.
  - 6.3 Non-routine messages are promptly referred in accordance with operating requirements.

- |   |     |   |
|---|-----|---|
|   | 6.4 | Error conditions within level of authority are dealt with promptly, and uncorrected errors are promptly reported.                         |
|   | 6.5 | Output devices and materials are monitored for quality.   |
| 7. Access and transmit information via the Internet | 7.1 | Access to the Internet is gained in accordance with the provider's operating procedures.  |
|   | 7.2 | Evidence of the ability to negotiate web sites to locate and access specified information and other services is efficiently demonstrated. |
|   | 7.3 | E-Mail is sent and retrieved competently.   |
| 8. Close down computer system                       | 8.1 | The correct shut down sequence is followed.   |
|   | 8.2 | Problem with shutting down computer is reported promptly.   |
|   | 8.3 | All safety and protective procedures are observed.  |
|   | 8.4 | The system integrity and security are preserved.  |
| 9. Maintain computer equipment                      | 9.1 | Cleaning materials and/or solutions used meet specified recommendation.   |
|   | 9.2 | The equipment is cleaned as directed.   |
|   | 9.3 | Wear and faults identified are promptly reported to the appropriate personnel.  |

## RANGE STATEMENT

This unit applies to activities associated with essential operations linked to using and maintaining basic computer equipment.

### Equipment:

- install supplied computer
- install supplied peripherals

### Work environment:

- equipment
- furniture
- cabling
- power supply

## Input devices:

- keyboard
- mouse
- scanner
- microphone
- camera

## Software systems to include for:

- word processing
- spread sheet
- internet access

## Files save on:

- network
- magnetic media
- personal PC

## Data:

- textual
- numerical
- graphical

## File operations:

Naming, updating, archiving, traversing field and records in database, use of search, sort, print

## Maintenance:

- cleaning: enclosures, screen, input devices, output devices
- checking cables, etc

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to accurately carry out basic data entry and retrieval operations on a computer system in accordance with the performance criteria and the range listed within the range of variables statement .

### (1) Critical Aspects and Evidence

It is essential that competence be observed in the following aspects:

- Initiate the use on the equipment.
- Use document layout and data format facilities.
- Locate and access data.
- Use file operations.
- Manipulate input devices.
- Key-in and format reports.
- Access to the internet.

**(2) Pre-requisite Relationship of Units**

The pre-requisite for this unit is:

- Nil

**(3) Underpinning Knowledge and Skills**Knowledge

knowledge of:

- safety for working with and around computers
- computer hardware and software systems
- procedure for initiating and closing down computer
- the operation of the data entry management system
- methods of locating files
- organisation's standards applicable to accessing files
- files operations and their applications
- file operation in database setting
- creating, locating and saving files
- using input devices
- using data checking devices
- formatting functions of software
- layout function of software
- graphic productions and manipulation
- regard for accuracy and security of information
- functions on the internet

Skills

The ability to:

- identify computer hardware
- manipulate data input devices
- access data
- use file operations
- key-in and format reports and letters
- retrieve data
- amend data
- print data
- save data
- search and receive data from the internet
- send and receive E-Mail

**(4) Resource Implications**

Files saved on network, magnetic media, personal Computer

Input devices: Keyboard, mouse, other selection devices

**(5) Method of Assessment**

Competency shall be assessed while work is undertaken under direct supervision with regular checks, but may include some autonomy when working as part of a team.

Competencies in this unit may be determined concurrently. Assessment must be in accordance with the performance criteria .

**(6) Context of Assessment**

This unit may be assessed on or off the job. Assessment should include practical demonstration either in the workplace or through a simulation. A range of methods to assess underpinning knowledge should support this

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices .

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level -	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level -	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

## **ECEGEN0222A: Communicate using a two way system**

### Competency Descriptor:

This unit describes the skills and knowledge required to effectively communicate using two-way communication devices on any production within the entertainment and cultural products industries.

Competency Field: Entertainment

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Maintain and adjust communication equipment	1.1 Appropriate checks are made to ensure that all talk back communication equipment is available at correct location for use. 1.2 Operational status of equipment is accurately determined. 1.3 Equipment is cleaned and any required maintenance on the equipment is undertaken in accordance with manufacturer's instructions. 1.4 Faults and defects are recognized and appropriate remedial action taken. 1.5 Appropriate measures are taken to ensure power supply is appropriate and available and that any battery-powered equipment is charged in advance of use. 1.6 Equipment is adjusted to personal requirements to ensure incoming communications can be heard. 1.7 Microphone is adjusted to ensure that outgoing communications are clearly transmitted. 1.7 Comfortable usage of equipment is verified.
2. Respond to incoming communications	2.1 Communications promptly, clearly and politely answered in accordance with enterprise procedures and standards. 2.2 The purpose of the communication is established and details are repeated to the caller to confirm understanding. 2.3 Appropriate response is provided to the caller, appropriate response is made to request for action and confirmation is made that it has been actioned. 2.4 Caller is advised if there will be any delay in responding the caller is advised to stand-by for further communication.

- |    |   |     |  |
|----|---|-----|--|
| 3. | Make outgoing communication               | 3.1 | Correct communication address is obtained and selected.  |
|    |   | 3.2 | Purpose for communication is established prior to contacting the other party.  |
|    |   | 3.3 | Equipment is correctly used to establish contact.  |
|    |   | 3.4 | The intended message is clearly communicated and confirmation that message has been understood is requested and the necessary action has been taken. |
| 4. | Use appropriate language, tone and volume | 4.1 | Communication is undertaken at volume of speech and tone of voice which allows other party to clearly hear the message.                              |
|    |   | 4.2 | Steps are taken to ensure that other people are not disturbed by volume of communications.   |
|    |   | 4.3 | Language that will be understood by the other party is used.   |

### **RANGE STATEMENT**

This unit applies to activities associated with the essential operations linked to communicating using a two-way system.

Documentation may be:

- computer generated
- manually written
- in bar code format

Two way equipment may include:

- headsets
- open speaker
- intercom
- table mounted microphones
- microphone attached to headset

Relevant personnel may include:

- supervisor
- head of department
- technical director
- other technical staff
- other specialist staff
- floor manager
- station manager
- transmission operators
- presentation operators
- tape library personnel
- tape operators
- master control
- news editor
- producer
- editor
- tape editor



## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to communicate using a two-way system in accordance with the performance criteria and the range listed within the range of variables statements.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- use communication equipment correctly and safely
- clarity of oral communication

### (2) Pre-requisite Relationship of Units

The pre-requisite for this unit is:

- Nil

### (3) Underpinning Knowledge and Skills

#### Knowledge

Knowledge of:

- specific two way communications equipment in use
- specifications for equipment
- basic maintenance of equipment, e.g. cleaning
- international radio call signs, alpha, bravo etc
- vocal tone and volume control

#### Skills

The ability to:

- communicate clearly and precisely
- provide accurate information
- interpret information accurately
- solve problems
- work with others
- ability to check equipment is working to specifications
- sources of advice, information, and technical support
- oral communication techniques and skills
- correct terminology which is relevant to the situation

### (4) Resource Implications

The following resources should be made available:

- workplace (actual enterprise or simulated)
- access to a range of two-way communications equipment

**(5) Method of Assessment**

Assessment methods must confirm consistency of performance over time and in a range of workplace relevant contexts.

Evidence may be collected in a variety of ways including:

- direct observation
- oral questioning
- written test
- evaluation of products made/work done previously
- testimonials from clients
- evaluation of qualifications/portfolio/awards/resume/workplace documents
- authenticated assessments and/or assignments from relevant training courses
- supporting statement from supervisor or previous employer

Assessment should be conducted over time and will generally be in conjunction with assessment of other units of competency.

Simulated activities must closely reflect the workplace.

**6) Context of Assessment**

Assessment may take place on the job, off the job or a combination of both of these. However, assessment of this unit would most effectively be undertaken on the job due to the specific workplace environment requirements. Off the job assessment must be undertaken in a closely simulated workplace environment.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>• Carries out established processes</li> <li>• Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Manages process</li> <li>• Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>• Establishes principles and procedures</li> <li>• Evaluates and reshapes process</li> <li>• Establishes criteria for evaluation</li> </ul>
Collect, analyse and organise information	Level 2	
Communicate ideas and information	Level 2	
Plan and organise activities	Level 2	
Work with others and in team	Level 2	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 2	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

## **ECEGEN0132A: Prepare and participate in an electronic media activity**

Competency Descriptor:

This unit deals with the skills and knowledge required to prepare and put into practice an activity using media that is appropriate for any production within the entertainment and cultural products industries.

Competency Field:

Entertainment

<b>ELEMENT OF COMPETENCY</b>		<b>PERFORMANCE CRITERIA</b>	
1.	Prepare the activity	1.1	The concept and scope of the activity is identified according to production or other requirements.
		1.2	The appropriate media to be used to achieve the desired outcome is identified in consultation with others.
		1.3	The relevant production requirements of the activity are identified.
		1.4	Any safety issues which need to be considered during the production are identified and actions to minimise the possibility of risk to anyone participating in the media activity are planned.
		1.5	The resources and equipment required to perform the activity are identified.
		1.6	A work plan is prepared in detail in an appropriate format.
2.	Realise and participate in the activity	2.1	A working environment that will achieve optimum results for the activity is established.
		2.2	Appropriate rehearsal exercises are conducted where necessary to improve and develop the effectiveness of the media activity.
		2.3	The activity is carried out according to the production requirements.
		2.4	Comprehensible instructions are delivered to the relevant personnel throughout the activity.
		2.5	Appropriate measures are taken to ensure the safety of all relevant personnel and any general public present during the activity.

- 2.6 The process of implementation is monitored and the activity is continuously assessed according to production requirements.
- 2.7 The realisation process is reviewed, assessed and documented after completion of the activity to evaluate the outcomes.

## RANGE STATEMENT

This unit applies to activities associated with the essential operations linked to preparing and participating in an electronic media activity.

Production requirements may include:

- technical requirements
- creative requirements
- duration
- style way of presenting things pertaining to a person, school, period or subject a manner exhibiting these characteristics
- content
- budget
- deadlines
- location
- audience
- purpose
- contractual arrangements
- confidentiality
- intellectual property
- copyright
- schedule
- codes of practice
- cultural protocols

Appropriate personnel to consult may include:

- film, television, radio, and/or multimedia professionals
- educators
- heads of department
- other technical staff
- other specialist creative and administrative staff

Constraints to the project may include:

- cost
- finance
- skilled experts
- personnel
- equipment
- technical difficulty

Resources and equipment may include:

- all the technical and specialist staff required for successful development of the proposed product
- computers
- film and/or video cameras
- application software
- video and audio equipment
- editing equipment
- lighting equipment
- studio panel equipment

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to preparing and participating in an electronic media activity in accordance with the performance criteria and the range listed within the range of variables statements.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate the ability to develop a media activity
- demonstrate the ability to document that media activity using a method appropriate to the chosen media
- monitor, review and assess media activity
- application of effective verbal communication skills
- demonstrate knowledge and application of relevant occupational health and safety practices and awareness of the applicable legislation
- compliance with enterprise and industry standards

### (2) Pre-requisite Relationship of Units

The pre-requisite for this unit is:

- Nil

### (3) Underpinning Knowledge and Skills

#### Knowledge

Knowledge of:

- the range of media available
- the variety of methods available
- occupational health and safety practices
- operations of required equipment
- production resources and requirements for media activities
- work plan
- occupational health and safety practices
- enterprise and industry standards

#### Skills

The ability to:

- organise activities
- select appropriate resources and activities
- create safe working environment
- communicate effectively
- implement and monitor activities

**(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)
- concept for media activity
- access to the relevant equipment
- occupational health and safety practices
- enterprise and industry standards

**(5) Method of Assessment**

Assessment methods must confirm consistency of performance over time and in a range of workplace relevant contexts.

Evidence may be collected in a variety of ways including:

- direct observation
- oral questioning
- written test
- evaluation of previous work
- testimonials from clients
- evaluation of qualifications/portfolio/awards/resume/workplace documents
- authenticated assessments and/or assignments from relevant training courses
- supporting statement from supervisor or previous employer

Assessment should be conducted over time and will generally be in conjunction with assessment of other units of competency.

Simulated activities must closely reflect the workplace.

**(6) Context of Assessment**

Assessment may take place on the job, off the job or a combination of both of these. However, assessment of this unit would most effectively be undertaken on the job due to the specific workplace environment requirements. Off the job assessment must be undertaken in a closely simulated workplace environment.

### CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 2	
Communicate ideas and information	Level 2	
Plan and organise activities	Level 2	
Work with others and in team	Level 2	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 2	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

## **ECELIG1212A: Determine and fulfil electrical power requirements**

Competency Descriptor:

This unit deals with the skills and knowledge required to determine power needs, provide a safe distribution system for power and satisfy request for power.

Competency Field: Lighting Operations

<b>ELEMENT OF COMPETENCY</b>		<b>PERFORMANCE CRITERIA</b>	
1.	Determine electrical power needs	1.1	Lighting documentation is correctly interpreted and consultations are held with appropriate personnel to confirm electrical power needs.
		1.2	Options to provide requested electrical power are explored with relevant personnel.
		1.3	Realistic estimates and correct calculations of resources required for the provision of requested power supply are made in accordance with industry practices and regulatory requirements.
		1.4	Appropriate tools, equipment and material are selected and checked in accordance with work requirements.
		1.5	Requests are prioritised and work operations are planned.
		1.6	Power requirements are accurately calculated and locations to which power should be distributed are identified and confirmed.
2.	Assess power distribution requirements	2.1	The format of the incoming electrical supply system is accurately recognised from appropriate documentation and the resulting implications are clearly understood.
		2.2	Contact is made with the appropriate personnel for connection details and permissions.
		2.3	The electrical power distribution layout plan is interpreted and load to be delivered to all locations is confirmed with appropriate personnel.
		2.4	Visual risk assessment of site conditions is undertaken and any necessary action taken to minimise the risks.



- |    |                                    |     |   |
|----|------------------------------------|-----|---|
| 3. | Set up distribution system         | 3.1 | Cable distribution plan is interpreted and details confirmed with appropriate personnel.  |
|    |                                    | 3.2 | Distribution cables are visually inspected for suitability prior to use.  |
|    |                                    | 3.3 | A safe cable distribution system is installed for the intended location in accordance with the legislative requirements and industry regulations.                   |
|    |                                    | 3.4 | All power distribution cables are labelled for correct polarity and easy identification.  |
|    |                                    | 3.5 | Appropriate switch gear are installed and tested in accordance with industry standards.   |
|    |                                    | 3.6 | Occupational health and safety standards and other regulatory requirements are identified, applied and monitored throughout the work procedure.                     |
| 4. | Maintain power distribution system | 4.1 | The safety of the electrical distribution system is monitored to prevent possible mechanical, electrical or environmental damage or danger.                         |
|    |                                    | 4.2 | Power is steadily provided in compliance with electrical supply regulations, industry standards, legal requirements and any relevant Health and Safety legislation. |
|    |                                    | 4.3 | Any fluctuations or problems caused to other equipment by the electrical distribution system are corrected in accordance with established procedures.               |
|    |                                    | 4.4 | Relevant documentation is completed and updated in accordance with enterprise policies and procedures.  |

## RANGE STATEMENTS

This relates to the unit as a whole providing the range of contexts and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

Regulations may include:

- utilities regulations
- industry guidelines and regulations
- legal requirements
- health and safety regulations

Test, fault finding and operating tools may include:

- high voltage testers
- proving dead equipment
- control system equipment
- multimeters

Equipment may include:

- high and low voltage switchboards
- control and protection equipment
- circuit breakers
- transformers
- isolators
- combined fuse switches (CFS), with or without contactor units
- low voltage equipment
- fuses
- mini circuit breakers
- contactors
- switchboard auxiliary supplies, control, supervision, protection, indication
- earthing systems including earthing circuit breakers, integral earths, earth switches, portable earths and protection systems

Appropriate personnel to consult, give or receive direction may include:

- supervisor/team leader or equivalent
- technical and engineering officers or equivalent
- power system control personnel or equivalent
- contractor and specialist personnel
- maintenance staff
- power plant operations personnel
- electrical engineer
- gaffer

Workplace policies and procedures may include:

- hazard control policies and procedures
- emergency, fire and accident procedures
- personal safety procedures
- procedures for the use of personal protective clothing and equipment
- conflict resolution procedures
- job procedures
- work instructions
- quality procedures
- environmental procedures

Information and documentation sources may include:

- lighting designs/plans
- verbal or written communications
- enterprise safety rules documentation
- dedicated computer equipment
- enterprise/site standing and operating instructions
- enterprise log books
- manufacturer's operation and maintenance manuals
- equipment and alarm manuals

Operating environment may be during:

- inclement/otherwise harsh weather conditions
- in wet/noisy/dusty/hot areas
- indoors
- during night periods

Occupational Health and Safety requirements may include:

- personal protective clothing and equipment
- hazard control policies and procedures
- emergency, fire and accident procedures
- safe handling and lifting procedures
- use and disposal of chemicals
- ergonomic considerations
- safe usage and storage of tools, material and equipment
- safe working environment

Problems/faults may include:

- transformer faults
- low voltage
- loss of power from generator
- circuit breaker faults
- cross-circuits
- blown fuses
- voltage spikes

Communications may be by means of:

- telephone
- two way radio
- pager
- public address system
- computer (electronic mail)
- operating log (written or verbal)

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to link to determining and fulfilling electrical power requirements in accordance with the performance criteria and the range listed within the range of variable statements.

### (1) Critical Aspects and Evidence

It is essential that competence be observed in the following aspects:

- demonstrate knowledge of the electrical circuitry, power distribution and regulatory and industry requirements
- determine work requirements and plan and organise work to fulfill such requirements
- select and use tools, equipment and material to complete tasks to specifications
- assess risks and take appropriate actions to minimize them
- identify and rectify problems promptly
- demonstrate the ability to provide power continuously and safely
- use tools and equipment safely
- perform testing and quality checks
- source, interpret and apply technical information to work activities
- complete essential post activity housekeeping
- communicate effectively with others in associated areas
- compliance with relevant Occupational Health and Safety requirements and industry standards
- perform all task in accordance with standard operating procedures, quality requirements and enterprise policies and procedures

### (2) Pre-requisite Relationship of Units

The pre-requisite for this unit is:

- Nil

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- principles of electricity
- power circuitry
- incoming electrical supply and the switchgear loading characteristics
- importance of correct power load for the event
- legal responsibilities when connecting to the supply
- safety issues associated with the site conditions
- importance of the person responsible for the operation of the location to be present to identify local distribution systems
- regulations and standards governing distribution of electricity
- the effects of electrical distribution on other sound and vision equipment
- potential problems associated with the incoming electrical mains supply
- legal responsibilities to other members of the production crew and the general public when providing an electrical supply
- recording and reporting electrical test results
- fault finding on switch gear and associated equipment
- how to problem solve on single-phase or three phase systems
- the importance of balanced loading
- the importance of monitoring the current of the neutral conductor

Skill

The ability to:

- plan and organise activities
- solve problems
- communicate clearly and precisely
- monitor work activities
- read and interpret technical information
- install and monitor power distribution system
- use and maintain tools and equipment
- conduct test and interpret results
- identify and rectify faults
- accurately carry out all recording, reporting and documentation activities
- work safely
- work in compliance with policies and procedures
- apply numeracy skills sufficient to make mathematical calculations necessary for the safe assembly, installation and testing of equipment
- apply literacy skills sufficient to interpret technical information

**(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)
- request/work sheet
- relevant technical documentation, manuals and manufacturer's specifications
- logs and work reporting documentation
- an environment in which power distribution system can be set up and operated
- a documentation outlining power requirements from which the candidate is able to work
- relevant tools, equipment and materials
- enterprise policies and procedures
- legislative, statutory and Occupational Health and Safety requirements
- Industry standards and codes of practice

**(5) Method of Assessment**

Assessment may incorporate a range of methods to assess performance and the application of essential underpinning knowledge, and might include:

- direct observation of the candidate determining and distributing electrical power during production activities
- evaluation of work plans and work activities led by the candidate
- oral or written questioning to assess knowledge of both the technical and safety aspect of power distribution
- review of portfolios of evidence or third party workplace reports of on-the-job performance by the candidate
- practical demonstration of skills through the completion of a range of preparatory, production and management tasks associated with industry-current power distribution practices for an event
- project or work activities that allow knowledge to be applied to specific production contexts and situations

Assessment should be conducted over time and will generally be in conjunction with assessment of other units of competency.

Simulated activities must closely reflect the workplace.

**(6) Context of Assessment**

This unit may be assessed on or off the job. Assessment should include practical demonstration either in the workplace or through a simulation. A range of methods to assess underpinning knowledge should support this.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 2	
Communicate ideas and information	Level 2	
Plan and organise activities	Level 2	
Work with others and in team	Level 2	
Use mathematical ideas and techniques	Level 2	
Solve problems	Level 2	
Use technology	Level 2	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

## **ECELIG1222A: Install basic electrical lighting and power circuit**

Competency Descriptor:

This unit deals with the skills and knowledge required to install, terminate and connect basic electrical lighting and power circuit.

Competency Field: Lighting Operations

<b>ELEMENT OF COMPETENCY</b>	<b>PERFORMANCE CRITERIA</b>
1. Prepare for work	<p>1.1 Work is planned and prepared to ensure procedures are followed and the work is appropriately sequenced in accordance with requirements.</p> <p>1.2 Condition and ratings under which the circuit is to operate is determined from requirements and in consultation with appropriate personnel.</p> <p>1.3 Cables and electrical accessories are selected to comply with standards and requirements for the condition and determined rating.</p> <p>1.4 Materials necessary to complete the work are obtained in accordance with established procedures and checked against job requirements.</p> <p>1.5 Tools, equipment and testing devices needed to carry out the work are obtained in accordance with established procedures and checked for correct operation and safety.</p> <p>1.6 Potential safety hazards/risks are identified and prevention and/or control measures are employed in accordance with health and safety requirements.</p> <p>1.7 Occupational health and safety requirements include use of personal protective gear are identified and followed and a clean and safe work environment is maintained.</p>
2. Install electrical wiring and accessories	<p>2.1 Electrical wiring and accessories are inspected and tested for faults and defects in accordance with manufacture's specifications, regulatory requirements and enterprise policies and procedures.</p> <p>2.2 Defective cables and accessories are replaced and reported in accordance with enterprise policies and procedures.</p>

- 2.3 All conduit and wiring are installed and secured in accordance with enterprise policies and procedures, regulatory requirements and industry standards.
- 2.4 ALL installation, terminations and connections are made following the correct procedures in accordance with regulatory requirements, manufacturers' specifications and industry standards.
- 2.5 All cables, wires, conductors and accessories are marked/tagged and labelled in accordance with enterprise policies and procedures, regulatory requirements and industry standards.
- 2.6 The integrity of insulated material is maintained in accordance with requirements.
- 2.7 All completed installations are tested for compliance with regulatory requirements, manufacturers' specifications and industry standards.
- 3. Connect electrical wiring
  - 3.1 Terminations and connections are made in accordance with regulatory requirements, manufacturers' specifications and industry standards.
  - 3.2 All terminations and connections are tested for compliance with specifications, regulatory requirements and industry standards.
  - 3.3 All cables, wires, conductors and connections are marked/tagged and labelled in accordance with enterprise policies and procedures, regulatory requirements and industry standards.
- 4. Connect accessories and equipment
  - 4.1 Equipment and accessories are inspected and tested for faults and defects in accordance with manufacture's specifications, regulatory requirements and enterprise policies and procedures.
  - 4.2 Defective equipment and accessories are replaced and reported in accordance with enterprise policies and procedures.
  - 4.3 Equipment and accessories are connected in accordance with manufacture's specifications, regulatory requirements and industry standards.
  - 4.4 All connections are tested for compliance with specifications, regulatory requirements and industry standards.



- 4.5 All equipment and accessories are marked/tagged and labelled in accordance with enterprise policies and procedures, regulatory requirements and industry standards.
5. Complete work
- 5.1 Work is inspected and checked for compliance with enterprise quality assurance requirements, regulatory requirements and industry standards.
- 5.2 Approval is obtained from authorised personnel to confirm completion of work is in accordance with established procedures before supply is connected.
- 5.3 Work area is cleared of waste and all tools and equipment are cleaned and stored in accordance with enterprise policies and procedures.
- 5.4 Status report(s) are completed and notified in accordance with established procedures.

## RANGE STATEMENT

The following explanations identify how this unit may be applied in different workplaces, sectors and circumstances.

Material may include:

- cable
- solder
- connectors
- straps
- electrical tape

Electrical supplies may include:

- alternating current
- direct current

Termination and connection may include:

- soldered joints
- crimping
- clamping
- pin connection
- plugs sockets

Tools and equipment may include:

- pliers
- screwdrivers
- hammers
- multimeter
- soldering iron

Testing may include:

- continuity test
- resistance test
- insulation test
- polarity test

Installation may include:

- surface mount
- flush mount
- in PVC (polyvinyl chloride) conduits
- in metal conduits

Damages to accessories may include:

Accessories may include:

- cracked protective casing
- missing pieces
- missing connectors pins
- cracked conductors

- power outlets
- breakers
- transformers

Personal protective equipment may include:

- overalls
- boots
- safety glasses/goggles
- gloves
- ear plugs/muffs
- electrostatic discharge (ESD) kit
- face masks/respirators

Potential safety hazards may include:

- electrical shock
- damage to circuit boards
- electrostatic discharge
- overheating of components
- partial short circuits

Workplace policies and procedures may include:

- hazard control policies and procedures
- emergency, fire and accident procedures
- personal safety procedures
- procedures for the use of personal protective clothing and equipment
- conflict resolution procedures
- job procedures
- work instructions
- quality procedures
- environmental procedures

Occupational Health and Safety requirements may include:

- personal protective clothing and equipment
- hazard control policies and procedures
- emergency, fire and accident procedures
- safe handling and lifting procedures
- use and disposal of chemicals
- ergonomic considerations
- safe usage and storage of tools, material and equipment
- safe working environment

Sources of information/documentation may include:

- manufacturer's specifications
- enterprise operating procedures
- work specifications
- technical manuals
- industry publications
- workplace records
- customer requirements
- industry standards
- workplace codes of practice

Cable damage may include:

- crushing
- burning
- kinks
- cuts
- sheath twist
- bending radius

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to install basic electrical lighting and power circuit in accordance with the performance criteria and the range listed within the range of variables statement.

**(1) Critical Aspects of Evidence**

It is essential that competence be observed in the following aspects:

- demonstrate knowledge of the electrical circuitry, installation and termination procedures and regulatory and industry requirements
- determine work requirements and plan and organise work to fulfill such requirements
- select and use tools, equipment and material to complete tasks to specifications
- identify and replace defective material
- use tools and equipment safely
- perform installation and termination procedures
- perform testing and quality checks
- source, interpret and apply technical information to work activities
- complete essential post activity housekeeping
- communicate effectively with others in associated areas
- compliance with relevant Occupational Health and Safety requirements and industry standards
- perform all task in accordance with standard operating procedures, quality requirements and enterprise policies and procedures

**(2) Pre-requisite Relationship of Units**

The pre-requisite for this unit is:

- Nil

**(3) Underpinning Knowledge and Skills****Knowledge**

Knowledge of:

- electrical circuitry
- electrical principles
- power rating
- types of electrical cables
- electrical accessories
- safety and work procedures
- regulatory standards
- usage and maintenance of tools and equipment
- joining and bonding methods
- types of joints
- conduit installation
- termination and connection methods
- installation methods
- enterprise policies and procedures
- quality requirements
- environmental protection
- industry standards and codes of practice
- relevant legislation from all levels of government that affects business operation
- Occupational Health and Safety requirements

**Skills**

The ability to:

- read and interpret technical information
- plan and organise work
- solve problems
- use and maintain tools and equipment
- perform installation and termination procedures
- accurately identify and replace defective material
- communicate effectively
- accurately carry out all recording, reporting and documentation activities
- work safely
- work in compliance with policies and procedures

**(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)
- request/work sheet
- relevant technical documentation, manuals and manufacturer's specifications
- logs and work reporting documentation
- relevant tools, equipment and materials
- enterprise policies and procedures
- legislative, statutory and Occupational Health and Safety requirements
- Industry standards and codes of practice

**(5) Method of Assessment**

Assessment may incorporate a range of methods to assess performance and the application of essential underpinning knowledge, and might include:

- direct observation of the candidate packing, loading or unloading equipment during a bump in/bump out
- oral or written questioning to assess knowledge of equipment types and features, safety issues
- case studies or problem solving exercises to assess the candidate's ability to respond to different operational situations and contexts
- review of portfolios of evidence and third party workplace reports of on-the job performance by the candidate

Simulated activities must closely reflect the workplace.

**(6) Context of Assessment**

Assessment may take place on the job, off the job or a combination of both of these. However, assessment of this unit would most effectively be undertaken on the job due to the specific workplace.

Environment requirements. Off the job assessment must be undertaken in a closely simulated workplace environment.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 2	
Communicate ideas and information	Level 2	
Plan and organise activities	Level 2	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 2	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

## **ECELIG1232A: Diagnose and rectify faults in simple electrical components and circuits**

Competency Descriptor:

This unit refers to the diagnosing and repairing faults in simple electrical components and circuits.

Competency Field: Lighting Operations

<b>ELEMENT OF COMPETENCY</b>	<b>PERFORMANCE CRITERIA</b>
1. Plan and prepare for the work	<p>1.1 Work requirements are identified from request/work orders and clarified/confirmed with appropriate parties or by site inspection.</p> <p>1.2 Occupational health and safety standards and other statutory requirements are identified, applied and monitored throughout the work procedure.</p> <p>1.3 Resources required to satisfy the work plan are identified, obtained and inspected for compliance with the job specifications.</p> <p>1.4 Relevant plans and drawings are selected and interpreted in accordance with the work plan.</p> <p>1.5 Correct size, type and quantity of materials/components are determined, obtained and inspected for compliance with the job specifications.</p> <p>1.6 Work is planned in detail including sequencing and prioritizing and considerations made, where appropriate, for the maintenance of security and operational status in accordance with system/site requirements.</p> <p>1.7 Co-ordination requirements, including requests for isolations where appropriate, are resolved with others involved, affected or required by the work.</p> <p>1.8 Potential hazards are identified and prevention and/or control measures are selected in accordance with the work plan and site procedures.</p> <p>1.9 Work area is prepared in accordance with work requirements and site procedures.</p>

- 2. Verify the fault
  - 2.1 Normal performance and function of the electrical component and circuit are ascertained by consulting appropriate reference sources in accordance with the work plan.
  - 2.2 Fault indicators and appropriate technical information/diagnostic techniques are used to verify reported symptoms/faults in accordance with the work plan.
  - 2.3 Symptoms are reproduced and monitored if possible, whilst due regard for personnel safety and system security is observed in accordance with the work plan.
- 3. Find the fault
  - 3.1 Required isolations are confirmed where appropriate in accordance with site requirements.
  - 3.2 Fault finding is carried out in conjunction with others involved in, or affected by, the work in accordance with enterprise/job requirements.
  - 3.3 Equipment components, wires, cables, terminations and support fixings are inspected for obvious faults in accordance with the work plan.
  - 3.4 All appropriate fault finding/diagnostic techniques are identified, selected and used to determine the fault in accordance with the work plan.
  - 3.5 All appropriate components are disconnected to enable accurate test measurements of suspected faulty components without the concern of back-feed readings in accordance with the work plan.
  - 3.6 Test and measurement instruments are used in accordance with manufacturer's instructions and job requirements.
- 4. Determine cause of fault
  - 4.1 All appropriate personnel are consulted in order to obtain as many details relating to the faulty equipment as possible in accordance with the work plan.
  - 4.2 Appropriate use is made of any information from fault indicators and maintenance records in accordance with the work plan.
  - 4.3 Valid conclusions about the nature and cause of the fault are reached from interpretation of available evidence in accordance with the work plan.

- 5. Repair or rectify the fault
  - 5.1 Required isolations are confirmed where appropriate in accordance with site requirements.
  - 5.2 Appropriate repair procedures are undertaken in conjunction with others involved in, or affected by, the work in accordance with the work plan.
  - 5.3 Faulty, worn, damaged or unsecured components are replaced, repaired or secured in accordance with the work plan.
  - 5.4 Parts and components are selected and replaced as required in accordance with appropriate specifications and the work plan.
  - 5.5 Components disconnected for testing are reconnected having been proven free of faults and all terminations are then checked to ensure they are electrically and mechanically sound in accordance with the work plan.
  - 5.6 All faults are repaired or rectified in accordance with the work plan.
  - 5.7 Final job inspection is performed and permits are relinquished as required in accordance with the work plan.
- 6. Complete the work
  - 6.1 Work is completed and appropriate personnel notified in accordance with site/enterprise requirements.
  - 6.2 Work area is cleared of waste, cleaned, restored and secured in accordance with site/enterprise procedures.
  - 6.3 Tools and equipment are maintained and stored in accordance with site/enterprise procedures.
  - 6.4 All documentation and reporting are completed in accordance with enterprise procedures.
  - 6.5 Work completion details are finalised in accordance with site/enterprise procedures.



## RANGE STATEMENT

This relates to the unit as a whole providing the range of contexts and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

Workplace policies and procedures may include:

- hazard control policies and procedures
- emergency, fire and accident procedures
- personal safety procedures
- procedures for the use of personal protective clothing and equipment
- conflict resolution procedures
- job procedures
- work instructions
- quality procedures
- environmental procedures

Components may include:

- cables
- fixtures
- apparatus
- protective equipment

Materials may include:

- cables
- solder/flux
- lubricants
- cleaning solvents
- contact cleaners
- connectors
- adhesives and sealants

Occupational Health and Safety requirements may include:

- personal protective clothing and equipment
- hazard control policies and procedures
- emergency, fire and accident procedures
- safe handling and lifting procedures
- use and disposal of chemicals
- ergonomic considerations
- safe usage and storage of tools, material and equipment
- safe working environment

Test and measurement instruments may include:

- multimeter
- potentiometer
- hand-held communicator/ programmer
- frequency counter
- function generator
- logic analyser and specialised test equipment
- cable testers and checkers
- tone generators and locators
- diagnostic tools

Faults may include:

- incorrect output
- damage circuit
- error messages
- damaged cables

Tools and equipment may include:

- pliers
- screwdrivers
- drills
- wire stripper
- chisels
- hammer
- solder iron

Appropriate personnel may include:

- supervisor
- technical production manager
- other electricians
- client support managers

Guidelines and procedures may include:

- industry standards
- enterprise procedures
- industry codes of practice
- manufacturers' specifications

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to diagnose and rectifying faults in simple electrical components and circuits in accordance with the range listed within the range of variables statement.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- show compliance with organizational policies and procedures including Quality Assurance requirements
- adopt and carry out correct procedures prior to undertaking task
- demonstrate safe and effective operational use of tools and equipment
- demonstrate the ability to diagnose faults in electrical components and circuits
- demonstrate correct procedures in repairing faults in electrical equipment/circuits
- give particular attention to safety and elimination of hazards
- demonstrate safe handling/storage of material/supplies
- interactively communicate with others to ensure safe operations
- demonstrate effective engineering techniques to produce designed outcome

### (2) Pre-requisite Relationship of Units

The pre-requisite for this unit is:

- Nil

### (3) Underpinning Knowledge and Skills

#### Knowledge

Knowledge of:

- occupational health and safety standards;
- relevant manufacturing requirements and codes of practice
- relevant industry standards
- equipment and material required to perform the work
- isolation procedures
- layout of plant/work site and operation of its equipment
- faultfinding and diagnostic techniques
- repair techniques
- electrical equipment and their capabilities

Knowledge

Knowledge of: (Cont'd)

- regulatory procedures
- electrical principles
- test and measurement instruments
- circuit plan appreciation
- engineering and electrical workshop practice
- communication principles

Skills

The ability to:

- apply occupational health and safety standards
- follow relevant statutory regulations and codes of practice
- use and update plans
- use drawings and texts
- use tools and relevant equipment
- use test and measurement instruments
- verify and identify faults
- use appropriate fault finding and diagnostic techniques
- repair faults
- select materials for the job
- apply regulatory procedures
- apply electrical principles
- communicate effectively
- apply data analysis techniques and tools
- apply engineering and electronic workshop practices

**(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)
- tools, equipment, materials and documentation required
- relevant product and manufacturing specifications
- relevant codes, standards, manuals and reference materials
- enterprise policies and procedures
- legislative, statutory and Occupational Health and Safety requirements
- Industry standards and codes of practice

**(5) Method of Assessment**

Assessment methods must confirm consistency of performance over time and in a range of workplace relevant contexts.

Assessment may incorporate a range of methods to assess performance and the application of essential underpinning knowledge, and might include:

- direct observation of the candidate completing tasks
- evaluation of repair work which has been done by the candidate
- oral or written questioning to assess relevant knowledge
- review of portfolios of evidence or third party workplace reports of on-the-job performance by the candidate
- practical demonstration of skills through the completion of a range of diagnostic and repair tasks with industry-current electrical components and circuits
- project or work activities that allow knowledge to be applied to specific production contexts and situations

Assessment should be conducted over time and will generally be in conjunction with assessment of other units of competency.

Simulated activities must closely reflect the workplace.

**(6) Context of Assessment**

Assessment may take place on the job, off the job or a combination of both of these. However, assessment of this unit would most effectively be undertaken on the job due to the specific workplace environment requirements. Off the job assessment must be undertaken in a closely simulated workplace environment.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 2	
Communicate ideas and information	Level 2	
Plan and organise activities	Level 2	
Work with others and in team	Level 2	
Use mathematical ideas and techniques	Level 2	
Solve problems	Level 2	
Use technology	Level 2	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

## **ECELIG1242A: Install wiring for equipment and technical production elements**

Competency Descriptor:

This unit deals with the skills and knowledge required to install and terminate wiring for equipment and technical production elements for an event.

Competency Field: Lighting Operations

<b>ELEMENT OF COMPETENCY</b>	<b>PERFORMANCE CRITERIA</b>
1. Prepare for installation and termination of cables to equipment and production elements	1.1 Installation requirements are accurately identified and are confirmed with the appropriate personnel.
	1.2 Location and position of equipment and production elements to be connected are confirmed with relevant persons.
	1.3 All resources required to satisfy the work plan are identified, obtained and inspected for compliance with the job specifications.
	1.4 Correct cables and materials are selected in accordance with job requirements.
	1.5 Relevant plans and drawings are selected and accurately interpreted in accordance with the work requirements.
	1.6 Work area is prepared in accordance with work requirements and enterprise procedures.
	1.7 Potential hazards and obstructions are identified and appropriate actions are taken in accordance with established procedures.
	1.8 Users and other involved parties are notified of isolation or shut down requirements and agreement is reached on time and duration of disruption.
	1.9 Power requirements of all components to be connected are accurately determined and an effective power distribution plan is developed.
	1.10 Work is planned in detail including sequencing of activities and prioritising so that work is completed efficiently and with minimal disruption to users.
2. Install cables	2.1 Installations are made to specifications, manufacturer

- requirements and to standard and regulatory requirements.
- 2.2 All cables are installed to work specifications.
  - 2.3 All cables, wires, conductors and installations are marked/tagged and labelled to specification.
  - 2.4 All joints are made following the correct procedures.
  - 2.5 All completed installations are tested for compliance with specifications.
  - 2.6 Route for cable installation is selected that provide most economical route to destination and prevent cable becoming an obstacle for other users and patrons.
  - 2.7 Equipment and wiring are installed in a manner that does not reduce the type of protection afforded by the equipment design.
3. Connect and terminate cables
- 3.1 Terminations/connections are made to specifications, manufacturers' requirements and to regulatory and standard requirements.
  - 3.2 All brackets, clamps and holders are adjusted and fixed to specifications.
  - 3.3 All cables, wires, conductors and connections are marked/tagged and labelled to specification.
  - 3.4 All completed wiring and connections are tested for compliance with specifications.
4. Complete the work
- 4.1 Work is completed and appropriate personnel notified in accordance with enterprise requirements.
  - 4.2 Work area is cleared of waste, cleaned, restored in accordance with enterprise requirements.
  - 4.3 All wastes are disposed of in accordance with environmental safety guidelines.
  - 4.4 Tools and equipment are maintained and stored in accordance with manufacturers' specifications and enterprise guidelines.

- 4.5 The required testing and checks are conducted to ensure that work is carried out to specifications and the necessary corrective measures are taken where problems exist.
5. Prepare installation documentation
- 5.1 It is confirmed with the appropriate personnel that installation meets requirements and the established signing off/handing over procedures are correctly followed.
- 5.2 Reports of installation activities are accurately completed and filed in accordance with enterprise procedures and guidelines.
- 5.3 Relevant sign off/hand over documentation is completed accurately, legibly and concisely and accurate updates are made as required.

## RANGE STATEMENT

This relates to the unit as a whole providing the range of contexts and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

Cables may include:

- fiber optics
- shielded twisted pair
- unshielded twisted pair
- coaxial cable
- sheathed cables

Wiring systems may include:

- electrical systems
- voice communication systems
- control systems
- data communication systems
- voice and data

Preparatory work may include:

- installation of conduits
- installation of cable trays
- preparation of surfaces
- removal of hazards
- isolation from power supply
- securing of work area

Tools and equipment to include:

- combination pliers
- long nose pliers
- side cutting pliers
- solder irons
- crimping tools
- cable testers



Termination and connection includes the utilisation of a range of methods including:

- clamping
- pin connection
- soldered joints
- crimping
- plugs sockets
- clamping of cables and wires

Standards and procedures may include:

- industry best practices
- Occupational Health and Safety requirements
- legislative requirements
- statutory regulations
- enterprise guidelines and procedures
- quality assurance requirements
- industry standards

Equipment and production elements may include:

- props
- signs
- special effects
- control equipment
- audio and lighting equipment
- business equipment

Types of joint may include:

- twist joints
- straight twist joints
- tee twist joints
- tee joints
- married joints
- straining point joints
- mechanical joints

Installation may include but not limited to:

- surface mount
- flush mount
- in PVC conduits
- in metal conduits
- using mechanical connectors

Relent personnel may include:

- supervisor
- technical production manager
- client
- technicians
- stage managers

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to install and terminate wiring systems in accordance with the performance criteria and the range listed within the range of variables statement.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate knowledge of wiring systems and installation/termination procedures
- demonstrate the ability to select and use appropriate tools and equipment
- demonstrate the ability to terminate and connect cables
- communicate information about tasks being undertaken to ensure a safe and efficient working environment
- take responsibility for the quality of their own work
- perform all tasks in accordance with standard operating procedures
- perform all related tasks to specifications
- use accepted installation and termination techniques, practices, processes and workplace procedures
- demonstrate safe working practices at all times

**(2) Pre-requisite Relationship of Units**

The pre-requisite for this unit is:

- Nil

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- electrical principles
- power distribution
- types of cables
- safety and work procedures
- industry and regulatory standards
- installation tools and equipment
- materials used in installation
- connection of cables
- bonding methods
- types of joints
- termination and connection methods
- installation methods
- testing methods
- Occupational Health and Safety requirements

Skills

The ability to:

- work safely to instructions
- select and use appropriate tools and equipment
- install cables to specification
- handle materials
- select material and supplies
- join cables
- terminate cables
- conduct testing on wiring system

**(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)
- relevant cables, materials, tools and equipment
- enterprise and industry requirements and standards and codes
- relevant documents and manuals
- enterprise policies and procedures
- legislative, statutory and Occupational Health and Safety requirements
- Industry standards and codes of practice

**(5) Method of Assessment**

Assessment methods must confirm consistency of performance over time and in a range of workplace relevant contexts.

Assessment may incorporate a range of methods to assess performance and the application of essential underpinning knowledge, and might include:

- direct observation of the candidate completing tasks
- evaluation of work which has been done by the candidate
- oral or written questioning to assess relevant knowledge

**METHOD OF ASSESSMENT (CONT'D)**

- review of portfolios of evidence or third party workplace reports of on-the-job performance by the candidate
- practical demonstration of skills through the completion of a range of wiring installation and termination tasks with industry-current electrical equipment and production elements
- project or work activities that allow knowledge to be applied to specific production contexts and situations

Assessment should be conducted over time and will generally be in conjunction with assessment of other units of competency.

Simulated activities must closely reflect the workplace.

### (6) Context of Assessment

Assessment may take place on the job, off the job or a combination of both of these. However, assessment of this unit would most effectively be undertaken on the job due to the specific workplace environment requirements. Off the job assessment must be undertaken in a closely simulated workplace environment.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>• Carries out established processes</li> <li>• Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Manages process</li> <li>• Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>• Establishes principles and procedures</li> <li>• Evaluates and reshapes process</li> <li>• Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 2	
Communicate ideas and information	Level 2	
Plan and organise activities	Level 2	
Work with others and in team	Level 2	
Use mathematical ideas and techniques	Level 2	
Solve problems	Level 2	
Use technology	Level 2	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**THHGHS0172A: Provide first aid**

## Competency Descriptor:

This unit deals with the skills and knowledge required to provide first aid. It complies with standards, practices and procedures of St John Ambulance Association and equivalent first aid bodies.

Competency Field: Hospitality

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Assess and respond to emergency first aid situations	1.1	Emergency situations are quickly and correctly recognised.
		1.2	The situation is assessed and a decision promptly made regarding action required.
		1.3	Assistance from emergency services/colleagues/customers is organised where appropriate.
2.	Provide appropriate treatment	2.1	Patient's physical condition is assessed from visible vital signs.
		2.2	First Aid is provided to stabilise the patient's physical and mental condition in accordance with organisation policy on provision of first aid and recognised first aid procedures.
3.	Monitor the situation	3.1	Back up services appropriate to the situation are identified and notified.
		3.2	Information on the victim's condition is accurately and clearly conveyed to emergency services personnel.
4.	Prepare an incident report	4.1	Emergency situations are documented according to company procedures.
		4.2	Reports provided are clear, accurate and timely.

**RANGE STATEMENTS**

This unit applies to all tourism and hospitality sectors.

First aid treatment is that defined in Common

Law as emergency assistance provided to a second party in the absence of medical or paramedical care.

Factors which affect the provision of first aid are:

legal issues that affect the provision of first aid in different industry sectors:

- the type of site where the injury occurs
- the nature of the injury and its cause
- availability of first aid equipment, medications and kits or other suitable alternative aids
- proximity and availability of trained paramedical and medical assistance
- the patient's cardio-vascular condition as indicated by body temperature, pulse rate and breathing rates
- chemical contamination

Injuries may include:

- cardio-vascular failure
- wounds and infections
- bone and joint injuries
- eye injuries
- burns
- external bleeding
- unconsciousness
- effects of heat or cold temperatures
- pre-existing illness
- bites

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to provide first aid in accordance with the performance criteria and the range listed within the range of variables statement.

### (1) Critical Aspects and Evidence

Look for:

- ability to correctly apply a range of first aid techniques for all situations described in the Range of Variables

### (2) Pre-requisite Relationship of Units

This unit should be assessed alone

### (3) Underpinning Knowledge and Skills

To demonstrate competence, attendance at and successful completion of an accredited First Aid course is required.

### (4) Resource Implications

The following resources should be made available:

- hospitality environment (simulated or actual enterprise)

### (5) Method of Assessment

Competency shall be assessed while work is undertaken under direct supervision with regular checks, but may include some autonomy when working as part of a team. Competencies in this unit may be determined concurrently. Assessment must be in accordance with the performance criteria.

**(6) Context of Assessment**

This unit will generally be assessed off-the-job.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>• Carries out established processes</li> <li>• Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Manages process</li> <li>• Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>• Establishes principles and procedures</li> <li>• Evaluates and reshapes process</li> <li>• Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 2	
Communicate ideas and information	Level 2	
Plan and organise activities	Level 2	
Work with others and in team	Level 2	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 2	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

**BSBSBM0012A: Craft personal entrepreneurial strategy**

## Competency Descriptor:

This unit deals with the skills and knowledge required to craft an entrepreneurial strategy that fits with the attitudes, behaviours, management competencies and experience necessary for entrepreneurs to meet the requirements and demands of a specific opportunity.

Competency Field: Small Business Operations

**ELEMENT OF COMPETENCY PERFORMANCE CRITERIA**

1. Demonstrate knowledge of the nature of entrepreneurship	1.1	Concepts associated with entrepreneurship are clearly defined.
	1.2	Factors which influence entrepreneurship in and outside of Jamaica are correctly identified and explained.
	1.3	The importance of entrepreneurship to economic development and employment is explained clearly.
	1.4	The findings of research conducted on entrepreneurial ventures and successes in the Caribbean region are clearly presented in an appropriate format.
	1.5	Differences between wage employment and entrepreneurial ventures are correctly stated.
2. Identify and assess entrepreneurial characteristics	2.1	Relevant research is carried out and required entrepreneurial characteristics identified.
	2.2	Entrepreneurial characteristics identified are assessed and ranked.
	2.3	An understanding of the process and discipline that enable an individual to evaluate and shape choices and to initiate effective action is correctly demonstrated.
	2.4	Factors that will help an entrepreneur to manage the risk and uncertainties of the future, while maintaining a future orientated frame of mind, are identified.

- |    |                                   |     |   |
|----|-----------------------------------|-----|---|
| 3. | Develop self-assessment profile   | 3.1 | Self-assessment tools/methods to identify personal entrepreneurial potential are identified and properly used.  |
|    |                                   | 3.2 | The ability to apply creativity, problem-solving techniques and principles to solve business related problems are demonstrated.   |
|    |                                   | 3.3 | Feedback from others for the purpose of becoming aware of blind spots and for reinforcing or changing existing perceptions of strengths/ weaknesses is appropriately obtained.  |
| 4. | Craft an entrepreneurial strategy | 4.1 | A profile of the past that includes accomplishments and preferences in terms of life and work styles, coupled with a look into the future and an identification of what one would like to do is developed.                |
|    |                                   | 4.2 | Commitment, determination and perseverance; orientation towards goals; taking initiative and accepting personal responsibility; recognizing management competencies and identifying areas for development are determined. |
|    |                                   | 4.3 | Written guidelines to obtain feedback that is solicited, honest, straightforward, and helpful but not all positive or negative are developed to facilitate reviews.   |
|    |                                   | 4.4 | Framework and process for setting goals which demand time, self-discipline, commitment, dedication and practice are developed.  |
|    |                                   | 4.5 | Goals established are specific and concrete, measurable, relate to time, realistic and attainable.  |
|    |                                   | 4.6 | Priorities, including identifying conflicts and trade-offs and how these may be resolved are established.   |
|    |                                   | 4.7 | Potential problems, obstacles and risks in meeting goals are identified.  |
|    |                                   | 4.8 | Specified action steps that are to be performed in order to accomplish goals are identified.  |
|    |                                   | 4.9 | The method by which results will be measured is indicated.  |



- 4.10 Milestones for reviewing progress and tying these to specific dates on a calendar are established.
- 4.11 Sources of help to obtain resources are identified.
- 4.12 Evidence of the ability to review process and periodically revise goals is demonstrated.

## RANGE STATEMENT

At this stage of the entrepreneurial process the entrepreneur must be able to conduct a self-assessment profile, examine the frame work for self assessment, develop a personal entrepreneurial strategy, identify data to be collected in the self-assessment process and learn about receiving feedback and setting goals.

Concepts associated to include:

- risk
- entrepreneurship
- macro-screening
- micro-screening
- competition
- wage employment

Influencing factors to include:

- market conditions
- markets – demand/supply
- global trends
- level of economic activities
- funding
- economic stability
- social stability
- resources availability

The entrepreneur must be able to:

- understand the extreme complexity in predicting or aligning him/herself to specific careers in an environment of constant change
- determine the kind of entrepreneur he or she wants to become based on attitudes, behaviours, competencies, experience and how these fit with the requirements and demands for a specific opportunity
- evaluate thoroughly his or her attraction to entrepreneurship
- effectively develop personal plan
- utilize available information that will enhance his or her ability to achieve success

The entrepreneur may encounter setbacks if the planning process is not effectively pursued.

Pitfalls may include:

- proceeding without effective planning which may result in commitment to uncertainty
- commitment to a premature path with the desirability of flexibility can lead to disaster
- personal plans fail for the same reasons as business plans including frustration if the plan appears not to be working immediately and the challenges of changing behaviour from an activity-oriented routine to one that is goal oriented
- developing plans that fail to anticipate obstacles, and those that lack progress milestones and reviews

## EVIDENCE GUIDE

Competency is to be demonstrated when the entrepreneur is able to undertake a personal entrepreneurial assessment exercise to determine if he or she possesses the necessary credentials to be a successful entrepreneur. This stage of the entrepreneurial process is critical since experience has shown that the founder is one of the deciding forces if the venture is to succeed and prosper.

### (1) Critical Aspects of Evidence

The entrepreneur will be assessed by his/her action in developing an orchestrated plan in order to effectively pursue the business concept.

### (2) Pre-requisite Relationship of Units

- Nil

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- personal entrepreneurial profile systems
- effective management systems: marketing, operations/productions, finance, administration, law
- how to measure feedback
- the method of developing a personal plan and a business plan
- understanding the difference between entrepreneurial culture and management culture

Skills

The ability to:

- determine barriers to entrepreneurship
- minimize exposure to risk
- exploit any available resource pool
- tailor reward systems to meet a particular situation
- effectively plan and execute activities
- use computer technology to undertake assessments

**(4) Resource Implications**

The following resources should be made available:

Personal computer with access to the internet and appropriate software that will enable one to conduct the necessary analysis using the internet

**(5) Method of Assessment**

A useful method of assessment is to determine if the venture can stand up to the test of critical evaluation.

**(6) Context of Assessment**

This stage of the entrepreneurial process is assessed when comparisons are made between actual outcomes and plans/projections.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1	Level 2	Level 3
<ul style="list-style-type: none"> <li>• Carries out established processes</li> <li>• Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Manages process</li> <li>• Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>• Establishes principles and procedures</li> <li>• Evaluates and reshapes process</li> <li>• Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 1	
Communicate ideas and information	Level 1	
Plan and organise activities	Level 1	
Work with others and in team	Level 1	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 1	
Use technology	Level 1	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

## ECELIG1253A: Operate lighting using advanced techniques

### Competency Descriptor:

This unit deals with the skills and knowledge required to connect the lighting system to advanced fixtures, and program the console accordingly. This unit involves a degree of experimentation with the possibilities presented by the advanced fixtures and therefore this unit may be undertaken in consultation with a lighting designer or by the designer as an integral part of the design process.

Competency Field: Lighting Operations

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Determine production requirements	1.1	Production documentation is evaluated to establish creative and technical parameters.
		1.2	Scope of lighting requirement is accurately determined through liaison with relevant colleague.
		1.3	The capabilities of equipment to deliver required effects assessed.
2.	Connect and format advanced fixtures to control system	2.1	Console fixture library is checked to ensure correct inventory exists and is operational.
		2.2	Console is connected to advanced fixtures through appropriate control protocol and is checked to ensure designer's control requirements can be achieved.
		2.3	Experimentation is used to test the capabilities of advanced fixtures.
		2.4	Soft patch required for production is set up to ensure advanced fixtures are connected to appropriate control surfaces.
		2.5	Presets for advanced fixtures are formatted in accordance with requirements of designer.
		2.6	Electronic and paper plots are accurately maintained in accordance with changes to original set-up.
3.	Program console to receive pre-recorded material from an external source	3.1	Protocol, programme type and connectivity of external source material are assessed for compatibility with main console.

- 3.2 Appropriate back-ups of external source material are completed prior to transfer to main console.
- 3.3 Appropriate assessment of the need for any changes to source material to address venue system is made and correct determination of whether changes can be made on external device of main console is made.
- 3.4 Main console and external device are correctly set up and appropriate techniques are used to transfer material.
- 3.5 Appropriate checks are made to ensure successful transfer and action taken accordingly.

## RANGE STATEMENT

The following explanations identify how this unit may be applied in different workplaces, sectors and circumstances.

Advanced fixtures may include:

- LED (light-emitting diode) colour change equipment
- WYSIWYG (What You See Is What You Get) and computer programming rendering programs
- robotic and automated stage equipment
- digitally controlled projection equipment

Appropriate personnel may include:

- designer
- director
- stage manager
- other specialist staff
- programmers for advanced fixtures

Material to be read and interpreted may include:

- cue sheets
- script
- focus notes
- running sheets
- lighting plan
- patch sheets
- equipment lists
- colour lists
- manuals
- instructions for computerized lighting boards
- instructions for advanced fixtures

All work is carried out in accordance with:

- relevant standards, including electrical standards in accordance with regulations
- production and/or venue requirements
- organisation standards
- technical constraints
- other resource constraints
- production schedule
- organisational and legislative Occupational Health and Safety requirements
- lighting plan and other documentation as appropriate

Advanced fixtures must include:

- colour scrollers
- automated lighting fixtures both motorized yoke and moving mirror

## EVIDENCE GUIDE

### (1) Critical Aspects of Evidence

The following evidence is critical to the judgement of competence in this unit:

- ability to accurately record and reproduce lighting cues to instruction in a given timeframe
- support for the lighting design process through creative use of the advanced fixtures by skilful and efficient operation of the console
- demonstrate knowledge of the advance lighting operations, equipment and processes and the range of applications
- determine work requirements and plan and organise work to fulfill such requirements
- assess and determine appropriate equipment and material to complete tasks to specifications
- recognition of capabilities of lighting equipment and accessories, including key features and purpose
- set up and operate use of industry-current lighting equipment and accessories safely
- ability to apply a range of technical lighting knowledge and manual techniques to the programming and installation of lighting equipment so that the lighting set up meets the production and safety requirements
- identify problems promptly and handle them as directed
- completion of lighting-related tasks in accordance with health and safety procedures
- perform testing and quality checks
- completion of tasks within typical workplace time constraints
- practical demonstration of skills through the installation and testing of advance lighting equipment for an actual production
- source, interpret and apply technical information to work activities
- involvement of and interaction with a team to reflect the collaborative nature of the technical production process
- compliance with relevant Occupational Health and Safety requirements and industry standards
- perform all task in accordance with standard operating procedures, quality requirements and enterprise policies and procedures

### (2) Pre-requisite Relationship of Units

The pre-requisite for this unit is:

- Nil

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- the expressive qualities of lighting as it relates to the nature of the work, the style of the production and the qualities of the performance
- design interpretation and issues associated with maintaining design integrity in the context of lighting
- visualising the effects of lighting on the stage
- techniques for translating concepts into creative and workable solutions
- lighting control concepts used and advanced fixtures used in a wide range of lighting systems
- a wide range of lanterns and accessories, their uses and operations (optical and mechanical)
- the elements of lighting design and their impact on the lighting technician
- problem solving techniques
- colour recognition and the various colour media used in lighting
- control protocols for a range of automated lighting fixtures
- documentation and back-up systems used in conjunction with lighting control
- relevant organisational and legislative Occupational Health and Safety requirements, including working with electricity
- basic electronics
- communication and negotiation skills particularly in relation to liaisons with designers and directors
- logical programming and sequencing for automated lighting

Skills

The ability to:

- read and interpret technical information
- plan and organise work
- solve problems
- identify and operate equipment
- use and maintain tools and equipment
- assess capabilities of equipment
- determine requirements for meeting production specifications
- install and handle equipment
- conduct test and interpret results
- identify and make changes and modifications
- perform programming
- communicate effectively
- accurately carry out all recording, reporting and documentation activities
- work safely
- work in compliance with policies and procedures
- apply literacy skills sufficient to interpret production documentation
- apply numeracy skills sufficient to complete simple mathematical calculations and memorise numbers for channel selection

**(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)
- request/work sheet
- relevant technical documentation, manuals and manufacturer's specifications
- logs and work reporting documentation



**Resource Implications (Cont'd)**

- a range of lighting equipment as identified in the Range Statement including automated lighting
- an environment in which lighting can be set up and operated
- a lighting plan from which the candidate is able to work
- a production and production venue
- relevant tools, equipment and materials
- enterprise policies and procedures
- legislative, statutory and Occupational Health and Safety requirements
- Industry standards and codes of practice

**(5) Method of Assessment**

Assessment may incorporate a range of methods to assess performance and the application of essential underpinning knowledge, and might include:

- evaluation of the lighting effects produced by the candidate
- evaluation of reports produced by the candidate detailing the experimentation process to produce required effects
- evaluation of a presentation by the candidate detailing processes used to produce various effects
- oral or written questioning to assess technical knowledge
- review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate

Assessment methods should closely reflect workplace demands and the needs of particular groups (e.g. people with disabilities, and people who may have literacy or numeracy difficulties)

**(6) Context of Assessment**

Assessment may take place on the job, off the job or a combination of both of these. However, assessment of this unit would most effectively be undertaken on the job due to the specific workplace environment requirements. Off the job assessment must be undertaken in a closely simulated workplace environment.

The assessment context must provide for:

- practical demonstration of skills to produce lighting effects for three different productions, which require experimentation with different effects
- involvement of and interaction with a production and design team to reflect the collaborative nature of the process

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 3	
Communicate ideas and information	Level 3	
Plan and organise activities	Level 2	
Work with others and in team	Level 2	
Use mathematical ideas and techniques	Level 1	
Solve problems	Level 3	
Use technology	Level 2	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

## **ECELIG1263A: Provide dynamic lighting systems**

### Competency Descriptor:

This unit deals with the skills and knowledge required to interpret the objectives of the lighting plan in relation to the supply and control of dynamic fixtures such as moving lights, scrollers, dimmers and LED fixtures.

Competency Field: Lighting Operations

<b>ELEMENT OF COMPETENCY</b>		<b>PERFORMANCE CRITERIA</b>	
1.	Establish requirements	1.1	Lighting documentation is correctly interpreted and consultations are held with appropriate personnel to confirm requirements.
		1.2	Information about the production schedule is obtained from available sources in accordance with enterprise policies and procedures.
		1.3	Realistic estimates and correct calculations of resources required for the dynamic lighting production are made in accordance with approved budget.
		1.4	Capabilities of equipment to produce required effects are assessed and resources are obtained and made available as required.
		1.5	Power requirements are accurately calculated and power sources and locations are identified and confirmed that they will meet production requirements.
2.	Prepare for providing dynamic lighting systems	2.1	Fixtures are correctly allocated to DMX universe following the correct procedures.
		2.2	Data distribution cables are laid in such a way as to provide signal amplification, separation and termination where necessary.
		2.3	Data schematics are drawn indicating data universe identities, fixture addresses and identity numbers.
		2.4	The correct operation of the fixtures' parameters are checked using a test instrument or a built in test facility.
		2.5	Limitations of equipment are determined and appropriate solutions are provided to comply with the lighting design requirements.

- 2.6 Fixtures address information is presented to the console operator in a clear and concise manner.
- 2.7 Software versions on fixtures and control devices are identified and programmed as required.
- 3. Install and test system
  - 3.1 Control devices are checked for appropriate fixture libraries and alternative software are sourced when necessary.
  - 3.2 Fixtures are safely attached to truss or scaffold structure at height and all safety devices are identified.
  - 3.3 Safety devices are checked and inspected for suitability and correct operation.
  - 3.4 Equipment are safely handled and stowed with especial regard to those with multiple moving parts.
  - 3.5 Light altering components such as gel strings, gobos or diffusion lenses are inserted and the allocation noted on the lighting plan.
  - 3.6 Test instruments are used correctly to identify data characteristics from an output control device such as a lighting console and calibration of fixtures are checked for harmonious consistency with other units.
  - 3.7 Lamps are safely changed and re-aligned in the fixture for optimum output.
  - 3.8 Any non-standard gobo and colour assignments for fixtures on the rig are record in accordance with established procedures.
  - 3.9 Fault data systems are determined, results are systematically recorded and faulty components in the network or internally in a fixture are identified and safely replaced.
  - 3.10 Dynamic lighting is provided in accordance with lighting design requirements.

## RANGE STATEMENTS

This unit applies to activities associated with the essential operations linked to provide dynamic lighting systems.

Appropriate personnel may include:

- other technicians
- colleagues from other specialist areas
- supervisors managers
- artistic and creative personnel, e.g. lighting designer, director
- production team
- external suppliers

Rigging and rigging accessories may include:

- safety chains
- hook clamps
- boom arms
- spigots
- telescopic stands
- H stands
- winch-up stands
- mobile booms
- T bars
- scaffold clamps
- truss
- span sets, slings, shackles
- chain blocks/motors and other rigging equipment installed by a licensed rigger

Lanterns may include:

- theatre-based units
- studio and location based units
- special effects units
- architectural fixtures
- digital moving ('intelligent' lights)

Lantern accessories must include:

- profile shutters
- gobo holders
- fresnel/pc barn doors
- colour frames

Other lighting elements may include:

Lighting documentation may include:

- full equipment schedule
- power requirements
- equipment instructions and/or manufacturer instructions
- building specifications
- colour cutting schedules
- hire or loan contracts

Control desk peripherals may include:

- monitors
- printers
- external memory storage, e.g. memory card or floppy disk
- riggers controls
- desk lamps
- control cables effects units and backup units
- effects units
- back-up units
- additional control modules, e.g. fader wings

Lantern accessories may include:

- manually operated colour changers
- irises
- colour scrollers
- animation discs
- gobo rotators and other effects accessories

Lamps used in this context may include:

- incandescent, e.g. tungsten halogen
- discharge
- PAR (parabolic aluminized reflector)
- low voltage lamps

Control desks may include:

- pracs
- electrical/electronic props
- special effects, e.g. strobes, mirror balls and motors, smoke machines, fog machines, ultraviolet light, oil and water crackers, effects projectors

Dimmers may include:

- analogue dimmers
- multiplexed digital dimmers
- multiplexed analogue dimmers
- single unit (follow spot) dimmers, e.g. Model 1 or Monopak
- small self-contained dimmable controllers, e.g. Fourpack, Quadpak

Testing the control system must include ensuring that:

- all operational controls on the lighting board function properly
- all dimmer channels are functioning properly
- all peripherals are functioning properly
- soft patch has been correctly configured
- there is a valid DMX line/signal

Workplace policies and procedures may include:

- hazard control policies and procedures
- emergency, fire and accident procedures
- personal safety procedures
- procedures for the use of personal protective clothing and equipment
- conflict resolution procedures
- job procedures
- work instructions
- quality procedures
- environmental procedures

Test equipment may include:

- test lamps
- continuity tester
- analogue or digital multimeters
- DMX, cable tester

- manual desks
- manual/memory desks ('rock' desks)
- push button memory desks ('theatre' desks)
- moving light desks

Testing of lanterns, accessories and other lighting elements must include ensuring that:

- all equipment is patched correctly
- all operational functions are working correctly
- correct colour and accessories are fitted
- all items that are controlled by the lighting desk are receiving data and are operating correctly

Testing the control system must include ensuring:

- correct control protocols have been selected
- correct dimmer profiles have been selected
- correct automated light software is installed/selected
- any riggers or designer controls are functioning properly

Occupational Health and Safety requirements may include:

- personal protective clothing and equipment
- hazard control policies and procedures
- emergency, fire and accident procedures
- safe handling and lifting procedures
- use and disposal of chemicals
- ergonomic considerations
- safe usage and storage of tools, material and equipment
- safe working environment

Lighting documentation must include:

- lighting plan
- packing, transport or equipment lists
- patch sheets

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to link provides dynamic lighting systems in accordance with the performance criteria and the range listed within the range of variable statements.

### (1) Critical Aspects and Evidence

It is essential that competence be observed in the following aspects:

- demonstrate knowledge of the lighting operations, equipment and processes and the range of applications
- determine work requirements and plan and organise work to fulfill such requirements
- identify, select and use tools, equipment and material to complete tasks to specifications
- assess capabilities of equipment and determine resource requirements
- plan and organize work activities including preparation of appropriate schematics and drawings
- record relevant data and update documentation
- recognition of lighting equipment and accessories, including key features and purpose
- set up and operate use of industry-current lighting equipment and accessories safely
- ability to apply a range of technical lighting knowledge and manual techniques to the installation of lighting equipment so that the lighting set up meets the production and safety requirements
- handle material and equipment safely
- identify problems promptly and handle them as directed
- completion of lighting-related tasks in accordance with health and safety procedures
- perform testing and quality checks
- completion of tasks within typical workplace time constraints
- practical demonstration of skills through the installation and testing of lighting equipment for an actual production
- source, interpret and apply technical information to work activities
- involvement of and interaction with a team to reflect the collaborative nature of the technical production process
- compliance with relevant Occupational Health and Safety requirements and industry standards
- perform all task in accordance with standard operating procedures, quality requirements and enterprise policies and procedures

### (2) Pre-requisite Relationship of Units

The pre-requisite for this unit is:

- Nil

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- characteristics and features of dynamic lighting
- resource requirement for dynamic lighting
- allocating DMX address numbers to fixtures and parameters of fixtures
- scheduling the allocated DMX numbers into a DMX universe to make optimum use of the front-end control device, the lighting console
- effectively distributing data to large numbers of fixtures, over multiple DMX universes, and keep a record of system layout and isolated branches
- alternative data protocols are available
- mechanical processes manipulate the light altering perimeters of a given fixture
- impact of optics of a unit on the light output
- effects of the age of lamps and their alignment affect the light output, and what action to take to improve this
- basic principles of subtractive colour mixing
- the standard USITT pin configuration of 5 pin and 3 pin XLR
- testing for the presence and quality of a DMX signal
- how to research, and file for reference, the parameter specifications of different fixtures available
- correctly and safely hanging or placing a fixture, both for its operation and for the desired effect
- safety accessories need inspecting during the rigging process
- how gel strings are constructed, and the importance of the materials used
- the principles of optical, mechanical and magnetic encoding assemblies
- identifying and replacing faulty components

Skill

The ability to:

- plan and organise activities
- solve problems
- communicate clearly and precisely
- manage resources
- access and evaluate information
- monitor work activities
- read and interpret technical information
- identify and operate equipment
- use and maintain tools and equipment
- install and handle equipment
- conduct test and interpret results
- identify and rectify faults
- accurately carry out all recording, reporting and documentation activities
- work safely
- work in compliance with policies and procedures
- apply numeracy skills sufficient to make mathematical calculations necessary for the safe assembly, installation and testing of equipment
- apply literacy skills sufficient to interpret a lighting plan



**(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)
- request/work sheet
- relevant technical documentation, manuals and manufacturer's specifications
- logs and work reporting documentation
- a range of lighting equipment as identified in the Range Statement
- an environment in which lighting can be set up and operated
- a lighting plan from which the candidate is able to work
- a production and production venue
- relevant tools, equipment and materials
- enterprise policies and procedures
- legislative, statutory and Occupational Health and Safety requirements
- Industry standards and codes of practice

**(5) Method of Assessment**

Assessment may incorporate a range of methods to assess performance and the application of essential underpinning knowledge, and might include:

- direct observation of the candidate using techniques to install lighting
- inspection of lighting equipment set up by the candidate to assess workability and safety issues
- oral or written questioning to assess knowledge of equipment, techniques and how to interpret a lighting plan
- review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate

Assessment methods should closely reflect workplace demands and the needs of particular groups (e.g. people with disabilities, and people who may have literacy or numeracy difficulties)

Simulated activities must closely reflect the workplace.

**(6) Context of Assessment**

This unit may be assessed on or off the job. Assessment should include practical demonstration either in the workplace or through a simulation. A range of methods to assess underpinning knowledge should support this.

## CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 3	
Communicate ideas and information	Level 3	
Plan and organise activities	Level 3	
Work with others and in team	Level 3	
Use mathematical ideas and techniques	Level 2	
Solve problems	Level 3	
Use technology	Level 2	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

## ECELIG1273A: Programme and operate lighting consoles

Competency Descriptor:

This unit describes the skills and knowledge required to prepare, programme, operate and monitor a lighting console/desk and to monitor lighting quality during rehearsals and live productions.

Competency Field: Lighting Operations

ELEMENT OF COMPETENCY		PERFORMANCE CRITERIA	
1.	Devise lighting effects	1.1	Close liaison is held with the relevant personnel and the lighting requirements are interpreted and confirmed so that aesthetic and technical production and script/production requirements are met.
		1.2	A range of ideas is generated for the execution of lighting which provides creative solutions to the technical and production issues at hand.
		1.3	Lighting effects are devised to ensure that correct visual interpretation of the script/production requirements is met through close liaison with relevant personnel.
		1.4	It is ensured that lighting effects meet the aesthetic requirements and provide the correct visual interpretation of the script/production requirements.
2.	Set up lighting console	2.1	Luminaire circuits are patched to appropriate circuits following established procedures.
		2.2	Dimmers are patched to appropriate channel numbers following established procedures.
		2.3	The picture is balanced to achieve required effect according to the style and nature of production.
		2.4	Lighting state is recorded and replayed from the memory as required.
3.	Set up effects console	3.1	Lighting effects are set up and tested following established procedures.
		3.2	Sound-to-light feeds are coordinated with relevant personnel and plugged to the console effectively.
		3.3	Changes to planned patch are executed accurately and promptly.
		3.4	All variables of moving effect lights are controlled to achieve

- the desired result.
4. Programme console
    - 4.1 Pre-programmed lighting effects are identified and are manipulated to achieve desired effects.
    - 4.2 Intelligent light software are installed, configured and customised to meet the aesthetic and technical production requirements.
    - 4.3 Consoles are programmed to control all the lighting effects and to maintain the continuity of lighting throughout the production.
    - 4.4 Modifications are made to programming as required to enhance the lighting effect or in response to direction of appropriate personnel.
  5. Prepare for console operation
    - 5.1 Checks are made to ensure that all the lighting console operations have been identified, implemented and documented.
    - 5.2 All operational aspects of the lighting console checked and tested to ensure readiness to provide lighting control following the correct procedures.
    - 5.3 All luminaires are connected to the correct channel number, voltage and current rating and frequency.
    - 5.4 Communications equipment are tested to ensure that they are in correct working order.
    - 5.5 Any problems and faults are rectified and relevant personnel are informed of any ongoing problems.
  6. Participate in technical rehearsal
    - 6.1 Technical aspects of the production are rehearsed in coordination with appropriate parties.
    - 6.2 Changes are executed to the set up of the lighting console on direction and according to performance requirements and the changes are rehearsed.
    - 6.3 Changes are implemented and cue sheets are modified according to final production requirements.
    - 6.4 Any pre-programmed automated systems in use are updated to reflect the final filming requirements.

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- |    |   |     |  |
|----|---|-----|--|
| 7. | Operate console during production                     | 7.1 | Lighting changes are executed on cue in accordance with the running/call sheet, directions from relevant personnel and the requirements of the production.       |
|    |   | 7.2 | The relevant personnel are continually communicated with throughout the production to achieve the desired result.  |
|    |   | 7.3 | Cues received from relevant personnel are consistently reacted to and ensure consistency of timing without undue lapses.   |
|    |   | 7.4 | The levels of channels are adjusted smoothly during the production as required and cross-fades are undertaken with due sensitivity to the pace of the action.    |
|    |   | 7.5 | Changes to channel numbers, luminaries and dimmers quickly executed.   |
|    |   | 7.6 | Any equipment malfunctions are reacted to by rectifying the fault safely, efficiently and relevant personnel are informed.                                       |
| 8. | Monitor technical quality during production           | 8.1 | Continuous liaison is maintained with all relevant personnel during the production.  |
|    |   | 8.2 | Steps are taken to ensure that lighting effects and light quality matches the required mood and effect.  |
|    |   | 8.3 | Continuity of lighting is maintained throughout the production.  |
|    |   | 8.4 | Lighting effects are amended to match any identified limitations of any recording equipment or other production limitations and relevant personnel are informed. |
|    |   | 8.5 | All actions are taken to ensure that technical quality is consistent with any editing and post-production requirements.  |
| 9. | Monitor effects on the lighting during the production | 9.1 | Unwanted shadows caused by equipment, obstructions and personnel are recognised and eliminated where required.   |
|    |   | 9.2 | Unwanted light changes are monitored and recognized and immediate action is taken to rectify and notifying any relevant personnel.                               |
|    |   | 9.3 | Lights are positioned so that light is kept out of the camera lens when shooting is being undertaken.  |

- |                           |   |
|---------------------------|---|
| 10. Shut down the console | 10.1 Equipment is safely shutdown following manufacturer's instructions and enterprise procedures at the end of the production. |
|                           | 10.2 Any required documentation is accurately completed in accordance with enterprise procedures.                               |

## RANGE STATEMENT

This unit applies to activities associated with the essential operations linked to programming and operating lighting consoles.

Check and test all operational aspects of the lighting console may include:

- all operational controls on the lighting board function properly
- all dimmer channels are functioning properly
- correct control protocols have been selected
- correct dimmer profiles have been selected
- correct intelligent light software is installed/selected
- all peripherals are functioning properly
- soft patch has been correctly configured
- any riggers or designer controls are functioning properly there is a valid DMX line/signal

Shoots may include:

- Single camera
- multi camera

Environments where lighting console may be operated include:

- in a studio
- outdoors
- in a venue
- harsh climate

Other lighting elements may include:

- pracs
- electrical/electronic props
- special effects such as strobes, mirror balls and motors, smoke machines, fog machines, ultraviolet light, chasers, oil and water crackers, effects projectors

Types of production may include:

- concerts
- theatres
- feature films
- documentaries
- short films
- animated productions
- commercials
- music video
- television productions of any type (eg music, drama, comedy, variety, sport)
- live or pre-recorded television productions

Lighting plans and other documentation may be:

- computer generated
- manually written

Lamps may include:

- incandescent
- discharge
- follow spots
- PAR (parabolic aluminized reflector)
- low voltage lamps

Test equipment may include:

- test lamps
- continuity tester
- analogue or digital multimeters
- DMX, cable tester

Relevant information on lighting plan may include:

- patch sheet
- colour list
- equipment list
- focus details
- cue synopsis
- magic sheet

Lanterns may include:

- studio based units
- special effects units
- architectural fixtures

Documents and production paperwork to be read and interpreted may include:

- colour coding schedules
- lantern schedules
- building specifications, room layouts
- power requirements
- equipment lists
- equipment instructions
- manufacturers' specifications/manuals
- lighting plan
- production schedule
- venue procedures
- colour lists, plots
- patch sheets
- focus notes
- floor sheets
- cue sheets
- script
- focus notes
- running sheet
- call sheets
- shot lists

Dimmers may include:

- analogue dimmers
- multiplexed digital dimmers
- multiplexed analogue dimmers
- single unit (follow spot) dimmers
- small self contained dimmable controllers
- MUX and DMUX units

Documents to be completed may include:

- fault reports
- accident reports
- cue sheets and modifications to cue sheets
- focus notes
- running sheets

Control desks may include:

- manual desks
- manual/memory desks
- remotely controlled lighting effects

Relevant personnel may include:

- supervisor
- head of department
- head lighting technician
- director of photography
- camera operator
- camera assistants
- grips
- director
- producer
- technical director
- other technical staff
- other specialist staff
- designers
- floor manager

Control desk peripherals may include:

- monitors
- printers
- external memory storage
- riggers controls, desk lamps
- control cables effects units and backup units

Lantern accessories may include:

- profile shutters
- gobo holders
- irises
- fresnel/pc barn doors
- colour frames
- manually operated colour changers
- colour scrollers
- animation discs
- gobo rotators
- snoots
- flags
- spots
- flood mechanisms
- cut outs
- cookies

Quality of light may include:

- dispersion
- direction
- intensity
- pictorial quality
- tonal differences and range
- colour quality
- temperature
- filters
- type of surface
- object
- pictorial lighting style
- sources

Occupational Health and Safety requirements may include:

- personal protective clothing and equipment
- hazard control policies and procedures
- emergency, fire and accident procedures
- safe handling and lifting procedures
- use and disposal of chemicals
- ergonomic considerations
- safe usage and storage of tools, material and equipment
- safe working environment

Rigging and rigging accessories may include:

- safety chains
- hook clamps
- boom arms
- spigots
- telescopic stands
- H stands
- winch up stands
- mobile booms
- T bars
- scaffold clamps
- truss
- chain blocks/motors

Workplace policies and procedures may include:

- hazard control policies and procedures
- emergency, fire and accident procedures
- personal safety procedures
- procedures for the use of personal protective clothing and equipment
- conflict resolution procedures
- job procedures
- work instructions
- quality procedures
- environmental procedures



## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to programme and operate lighting consoles in accordance with the performance criteria and the range listed within the range of variables statements.

### (1) Critical Aspects and Evidence

The following evidence is critical to the judgement of competence in this unit:

- demonstrate knowledge of the lighting operations, equipment and processes and the range of applications
- determine work requirements and plan and organise work to fulfill such requirements
- identify, select and use tools, equipment and material to complete tasks to specifications
- assess capabilities of equipment and determine resource requirements
- the interpretation of technical lighting plans
- knowledge of lighting terms and operation of lighting consoles
- effective verbal communication with a range of individuals
- knowledge and application of relevant local occupational health and safety legislation
- ability to memorise numbers so that the lighting operator can remember channel numbers on lighting boards
- plan and organize work activities including programming of consoles
- record relevant data and update documentation
- recognition of lighting equipment and accessories, including key features and purpose
- set up and operate use of industry-current lighting equipment and accessories safely
- ability to apply a range of technical lighting knowledge and manual techniques to the installation of lighting equipment so that the lighting set up meets the production and safety requirements
- handle material and equipment safely
- identify problems promptly and handle them as directed
- completion of lighting-related tasks in accordance with health and safety procedures
- perform testing and quality checks
- completion of tasks within typical workplace time constraints
- practical demonstration of skills through the installation and testing of lighting consoles for an actual production
- source, interpret and apply technical information to work activities
- involvement of and interaction with a team to reflect the collaborative nature of the technical production process
- compliance with relevant Occupational Health and Safety requirements and industry standards
- perform all task in accordance with standard operating procedures, quality requirements and enterprise policies and procedures

### (2) Pre-requisite Relationship of Units

The pre-requisite for this unit is:

- Nil

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- the basic elements of lighting design
- a range of lighting equipment
- a range of lighting accessories
- different types of lanterns
- a range of lighting systems, manual and computer
- a range of lighting control systems
- general lighting terms and an understanding of how terms may vary between different systems or how different terms can refer to the same functions on different systems
- lighting control concepts used in various lighting systems
- lighting effects and masking
- basic maintenance of lighting equipment
- DMX distribution
- colour recognition
- the various colour media used in lighting
- understanding of the relationship between colour and light
- relevant Work cover and other safety legislation
- relevant occupational health and safety legislation
- general knowledge of electricity and application of safe electrical work practices
- interpretation of technical and electrical plans
- measurements and recalculations of cues
- memorisation of numbers so that the channel numbers on lighting boards can be remembered
- documentation and back up systems used in conjunction with lighting control
- film and/or television traditions, protocol and terminology
- enterprise policies and procedures
- legislative, statutory and Occupational Health and Safety requirements
- Industry standards and codes of practice

Skills

The ability to:

- plan and organise activities
- solve problems
- communicate clearly and precisely
- manage resources
- access and evaluate information
- programme and operate consoles
- read and interpret technical information
- identify and operate equipment
- use and maintain tools and equipment
- install and handle equipment
- conduct test and interpret results
- identify and rectify faults

**Skills**

The ability to: (Cont'd)

- accurately carry out all recording, reporting and documentation activities
- work safely
- work in compliance with policies and procedures
- apply numeracy skills sufficient to make mathematical calculations necessary for the safe assembly, installation and testing of equipment
- apply literacy skills sufficient to interpret a lighting plan
- completion of simple mathematical calculations using a scale rule

**(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)
- request/work sheet
- relevant technical documentation, manuals and manufacturer's specifications
- logs and work reporting documentation
- a range of lighting equipment as identified in the Range Statement
- an environment in which lighting console can be set up and operated
- a lighting plan from which the candidate is able to work
- a production and production venue
- relevant tools, equipment and materials
- enterprise policies and procedures
- legislative, statutory and Occupational Health and Safety requirements
- Industry standards and codes of practice

**(5) Method of Assessment**

Assessment methods must include observation of performance during a practical demonstration. Direct observation may need to occur on more than one occasion to establish consistency of performance.

A range of methods to assess the application of essential underpinning knowledge must support this and might include:

- practical demonstration (direct observation may need to occur on more than one occasion to establish consistency of performance)
- role play
- case studies
- work samples or simulated workplace activities
- oral questioning/interview aimed at evaluating the processes used in developing and realizing the creative concept
- projects/reports/logbooks
- third party reports and authenticated prior achievements
- portfolios of evidence which demonstrate the processes used in developing and realizing the creative concept

**(6) Context of Assessment**

Assessment of this unit would most effectively be undertaken on the job due to the specific workplace environment requirements.

However, assessment of this unit can be undertaken in a closely simulated workplace environment, which reproduces all the elements of a production situation including operating to a production schedule.

The simulated assessment event should involve all the team members that would normally participate in a screen production and the use of current industry standard equipment.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1	Level 2	Level 3
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 3	
Communicate ideas and information	Level 3	
Plan and organise activities	Level 3	
Work with others and in team	Level 3	
Use mathematical ideas and techniques	Level 2	
Solve problems	Level 3	
Use technology	Level 2	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

## ECELIG1283A: Install and operate generators

Competency Descriptor:

This unit deals with the skills and knowledge required to install operate and monitor generators to provide power at a particular site or venue.

Competency Field: Lighting Operations

### ELEMENT OF COMPETENCY PERFORMANCE CRITERIA

1. Evaluate power requirements	1.1	The total power and distribution requirements are established and confirmed with appropriate parties in accordance with established procedures.
	1.2	The power requirements of individual users and sites including future expansion are determined and documented.
	1.3	The details of the power distribution system are determined, planned for and documented.
	1.4	The capabilities of the generator to fulfil total power requirements are assessed and appropriate generator is determined.
	1.5	Appropriate generator is selected based on careful evaluate of cost, efficiency, operating conditions and ability to provide power required.
	1.6	Fuel requirements are estimated, supplies obtained and charges agreed with appropriate personnel.
2. Assess operating environment	2.1	The format of the incoming electrical supply system is accurately recognised from appropriate documentation and the resulting implications are clearly understood.
	2.2	Contact is made with the appropriate personnel for connection details and permissions.
	2.3	The electrical distribution layout is analysed to ensure adequate load capability for the prevention of possible supply overload.
	2.4	Visual risk assessment of site conditions is undertaken and any necessary action taken to minimise the risks.
	2.5	Any special cabling requirements necessary for local conditions are identified and appropriate cabling is installed.

- 2.6 The location power cables are installed safely and with adequate guarding at all times.
- 2.7 Pre-start test is carried out on the cable distribution system in accordance with industry requirements.
- 2.8 The supply frequency and voltage for the intended production are established.
- 2.9 The necessary permissions are obtained when connecting a change over unit to a local mains supply and generator.
- 3. Install and inspect generator
  - 3.1 The generator is positioned safely and on level surface so that it is not a danger to patrons and other technical personnel in accordance with local regulations.
  - 3.2 The generator's lubricants, batteries, fan or drive belts are checked for wear and tear and for leaks in accordance with operating procedures.
  - 3.3 The generator is started and the controls are monitored for correct functioning prior to electrical energisation.
  - 3.4 All generator controls and systems are correctly checked on start up in accordance with operating procedures.
  - 3.5 Plant is operated within limits of plant design, enterprise or site requirements
  - 3.6 It is ensured that all cables and connectors are fit for use, and capable of maintaining the load placed on them.
  - 3.7 Connection to the supply is made in compliance with industry standards and regulations
- 4. Monitor generator
  - 4.1 Plant is monitored and observed to detect deviations from normal operating conditions
  - 4.2 The generator throughout its use for correct functioning and for fluid or fuel levels.
  - 4.3 The generator loading is monitored and balanced throughout its use and light loads are avoided whenever possible.
  - 4.4 All mains distribution cables and connectors are monitored for possible overheating.

- 4.5 Effective and efficient troubleshooting is carried out and corrective actions are taken to rectify abnormalities in accordance with manufacturer's and enterprise/site procedures.
- 4.6 Generator running times for production and identified faults are accurately record.

## RANGE STATEMENT

This unit applies to activities associated with the essential operations linked to installing and operating generators.

Occupational Health and Safety requirements may include:

- personal protective clothing and equipment
- hazard control policies and procedures
- emergency, fire and accident procedures
- safe handling and lifting procedures
- use and disposal of chemicals
- ergonomic considerations
- safe usage and storage of tools, material and equipment
- safe working environment

Equipment may include:

- high and low voltage switchboards
- control and protection equipment
- circuit breakers
- transformers
- isolators
- combined fuse switches (CFS), with or without contactor units
- low voltage equipment
- fuses
- mini circuit breakers
- contactors
- switchboard auxiliary supplies, control, supervision, protection, indication
- earthing systems including earthing circuit breakers, integral earths, earth switches, portable earths and protection systems
- 

Workplace policies and procedures may include:

- hazard control policies and procedures
- emergency, fire and accident procedures
- personal safety procedures
- procedures for the use of personal protective clothing and equipment
- conflict resolution procedures
- job procedures
- work instructions
- quality procedures
- environmental procedures

Sources of information/documentation may include:

- manufacturer's specifications
- enterprise operating procedures
- work specifications
- technical manuals
- industry publications
- workplace records
- customer requirements
- industry standards
- workplace codes of practice

Selection criteria may include:

- cost
- availability
- fuel efficiency
- ease of operations

Generators may include:

- single fuel internal combustion engine
- dual fuel internal combustion engine

Personal protective equipment may include:

- overalls
- boots
- safety glasses/goggles
- gloves
- ear plugs/muffs
- electrostatic discharge (ESD) kit
- face masks/respirators

Potential safety hazards may include:

- electrical shock
- damage to circuit boards
- electrostatic discharge
- overheating of components
- partial short circuit

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to install uninterruptible power supplies in accordance with the performance criteria and the range listed within the range of variables statement.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- demonstrate knowledge of the power requirements for a production, operations of generators, power distribution and associated maintenance and testing requirements for generators
- evaluate power requirements and provide cost effective and efficient solutions based on criteria
- select and install generator in accordance with requirements
- determine work requirements and plan and organise work to fulfill such requirements
- determine, select and use resources to complete tasks to specifications
- apply relevant monitoring, maintenance and testing procedures
- source, interpret and apply technical information to work activities
- record information and complete required documentation
- communicate effectively with others in associated areas
- apply relevant Occupational Health and Safety requirements, industry regulations and enterprise policies and procedures
- perform all task in accordance with standard operating procedures and quality requirements

### (2) Pre-requisite Relationship of Units

The pre-requisite for this unit is:

- Nil



**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- power requirements of productions
- power generation
- functions and operations of generators
- relevant information sources
- manufacturer's specifications
- installation and configuration of generators
- power distribution systems
- maintenance requirements of generators
- selection criteria for determination of appropriate generators
- connecting generator to main supply
- power loading
- solutions to generator faults/errors
- fault finding and troubleshooting techniques
- estimating fuel consumption
- principles of electricity
- effect of light loads on power generation
- voltage and frequency requirement for different user of power generated
- safety issues surrounding generators
- enterprise policies and procedures
- industry standards and codes of practice
- Occupational Health and Safety requirements

Skills

The ability to:

- read and interpret technical information
- plan and organise work
- solve problems
- use and maintain tools and equipment
- apply testing procedures
- evaluate and determine total power requirements
- explore options and select cost effective solutions
- install and monitor generator
- perform installation procedures
- communicate effectively
- accurately carry out all recording, reporting and documentation activities
- work safely
- work in compliance with policies and procedures

**(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)
- generator and power distribution system
- request/work order
- relevant tools, equipment and materials
- technical documentations, manuals and manufacturer's specifications
- enterprise policies and procedures
- legislative and Occupational Health and Safety requirements
- industry standards and codes of practice

**(5) Method of Assessment**

Assessment may incorporate a range of methods to assess performance and the application of essential underpinning knowledge, and might include:

- direct observation of the candidate operating generators
- evaluation of work plans and work activities led by the candidate
- oral or written questioning to assess knowledge of both the technical and management aspect of generator operations
- review of portfolios of evidence or third party workplace reports of on-the-job performance by the candidate
- practical demonstration of skills through the completion of a range of preparatory, production and management tasks associated with industry-current generator operations
- project or work activities that allow knowledge to be applied to specific production contexts and situations

Assessment should be conducted over time and will generally be in conjunction with assessment of other units of competency.

**(6) Context of Assessment**

Assessment may take place on the job, off the job or a combination of both of these. However, assessment of this unit would most effectively be undertaken on the job due to the specific workplace environment requirements. Off the job assessment must be undertaken in a closely simulated workplace environment.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1	Level 2	Level 3
<ul style="list-style-type: none"> <li>• Carries out established processes</li> <li>• Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Manages process</li> <li>• Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>• Establishes principles and procedures</li> <li>• Evaluates and reshapes process</li> <li>• Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 3	
Communicate ideas and information	Level 3	
Plan and organise activities	Level 3	
Work with others and in team	Level 3	
Use mathematical ideas and techniques	Level 2	
Solve problems	Level 3	
Use technology	Level 2	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

## **ECELIG1293A: Assess, set up and monitor power distribution systems**

### Competency Descriptor:

This unit deals with the skills and knowledge required to identify the local power supply, analysing the electrical distribution layout to ensure load capability, inspecting cables before use, and providing a safe cable distribution system.

Competency Field: Lighting Operations

<b>ELEMENT OF COMPETENCY</b>		<b>PERFORMANCE CRITERIA</b>	
1.	Establish requirements	1.1	Lighting documentation is correctly interpreted and consultations are held with appropriate personnel to confirm requirements.
		1.2	Information about the production schedule is obtained from available sources in accordance with enterprise policies and procedures.
		1.3	Realistic estimates and correct calculations of resources required for the dynamic lighting production are made in accordance with approved budget.
		1.4	Capabilities of equipment to produce required effects are assessed and resources are obtained and made available as required.
		1.5	Power requirements are accurately calculated and power sources and locations are identified and confirmed that they will meet production requirements.
2.	Assess environment and conditions	2.1	The format of the incoming electrical supply system is accurately recognised from appropriate documentation and the resulting implications are clearly understood.
		2.2	Contact is made with the appropriate personnel for connection details and permissions.
		2.3	The electrical distribution layout is analysed to ensure adequate load capability for the prevention of a possible supply overload.
		2.4	Visual risk assessment of site conditions is undertaken and any necessary action taken to minimise the risks.
3.	Set up distribution system	3.1	Cable distribution details are determined and confirmed with appropriate personnel.

- 3.2 The distribution system electrically tested prior to energising in accordance with the legislative requirements and industry regulations.
  - 3.3 Sub circuits accurately and efficiently identified.
  - 3.4 A safe cable distribution system is provided for the intended location in accordance with the legislative requirements and industry regulations.
  - 3.5 Distribution cables are visually inspected for suitability prior to use.
  - 3.6 All power distribution cables are labelled for correct polarity and easy identification.
  - 3.7 All switchgear intended for use are identified and appropriate checks are made to ensure that switch gear has up to date electrical test labels.
  - 3.8 The distribution system is tested, test results are accurately interpreted and any necessary action is taken.
4. Monitor power distribution system
- 4.1 The safety of the electrical distribution system is monitored to prevent possible mechanical, electrical or environmental damage or danger.
  - 4.2 Power is provided in compliance with electrical supply regulations, industry standards, legal requirements and any relevant Health and Safety legislation.
  - 4.3 All mains distribution conductors are monitored for balanced loading and neutral current.
  - 4.4 Any problems caused to other equipment by the electrical distribution system are corrected in accordance with established procedures.
  - 4.5 Any problems caused to the electrical distribution system by other equipment are promptly identified and appropriate action taken.
  - 4.6 Provisions are made for safe and efficient change over of sub circuits when the need arises.
  - 4.7 Relevant documentation is completed and updated in accordance with enterprise policies and procedures.

## RANGE STATEMENTS

This unit applies to activities associated with the essential operations linked to assess, set up and monitor power distribution systems.

Equipment may include:

- high and low voltage switchboards
- control and protection equipment
- circuit breakers
- transformers
- isolators
- combined fuse switches (CFS), with or without contactor units
- low voltage equipment
- fuses
- mini circuit breakers
- contactors
- switchboard auxiliary supplies, control, supervision, protection, indication
- earthing systems including earthing circuit breakers, integral earths, earth switches, portable earths and protection systems

Occupational Health and Safety requirements may include:

- personal protective clothing and equipment
- hazard control policies and procedures
- emergency, fire and accident procedures
- safe handling and lifting procedures
- use and disposal of chemicals
- ergonomic considerations
- safe usage and storage of tools, material and equipment
- safe working environment

Information and documentation sources may include:

- lighting designs/plans
- verbal or written communications
- enterprise safety rules documentation
- dedicated computer equipment
- enterprise/site standing and operating instructions
- enterprise log books
- manufacturer's operation and maintenance manuals
- equipment and alarm manuals

Workplace policies and procedures may include:

- hazard control policies and procedures
- emergency, fire and accident procedures
- personal safety procedures
- procedures for the use of personal protective clothing and equipment
- conflict resolution procedures
- job procedures
- work instructions
- quality procedures
- environmental procedures

Operating environment may be during:

- inclement/otherwise harsh weather conditions
- in wet/noisy/dusty/hot areas
- indoors
- during night periods

Appropriate personnel to consult, give or receive direction may include:

- supervisor/team leader or equivalent
- technical and engineering officers or equivalent
- power system control personnel or equivalent
- contractor and specialist personnel
- maintenance staff
- power plant operations personnel
- electrical engineer
- gaffer

Test, fault finding and operating tools may include:

- high voltage testers
- proving dead equipment
- control system equipment
- multimeters

Problems/faults may include:

- transformer faults
- low voltage
- loss of power from generator
- circuit breaker faults
- cross-circuits
- blown fuses
- voltage spikes

Regulations may include:

- utilities regulations
- industry guidelines and regulations
- legal requirements
- health and safety regulations

Communications may be by means of:

- telephone
- two way radio
- pager
- public address system
- computer (electronic mail)
- operating log (written or verbal)

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to link assessing, setting up and monitoring power distribution systems in accordance with the performance criteria and the range listed within the range of variable statements.

### (1) Critical Aspects and Evidence

It is essential that competence be observed in the following aspects:

- demonstrate knowledge of the electrical circuitry, power distribution and regulatory and industry requirements
- determine work requirements and plan and organise work to fulfill such requirements
- select and use tools, equipment and material to complete tasks to specifications
- determine requirements and organise work activities
- assess risks and take appropriate actions to minimize them
- identify and rectify problems promptly
- demonstrate the ability to provide power continuously and safely
- assess operating conditions and the environment
- use tools and equipment safely
- perform installation and monitoring procedures safely and
- perform testing and quality checks
- source, interpret and apply technical information to work activities
- complete essential post activity housekeeping
- communicate effectively with others in associated areas
- compliance with relevant Occupational Health and Safety requirements and industry standards
- perform all task in accordance with standard operating procedures, quality requirements and enterprise policies and procedures

**(2) Pre-requisite Relationship of Units**

The pre-requisite for this unit is:

- Nil

**(3) Underpinning Knowledge and Skills****Knowledge**

Knowledge of:

- principles of electricity
- power circuitry and power distribution systems
- power switching mechanisms
- the incoming electrical supply and the switchgear loading characteristics
- importance of provide correct power for the event
- legal responsibilities when connecting to the supply
- safety issues associated with the site conditions
- electrical power supply and distribution systems
- regulations and standards governing distribution of electricity
- the effects of electrical distribution on other sound and vision equipment
- potential problems associated with the incoming electrical mains supply
- legal responsibilities to other members of the production crew and the general public when providing an electrical supply
- recording and reporting all electrical test results
- fault finding on switch gear and associated equipment
- problems associated single-phase or three phase systems
- the importance of balanced loading
- the importance of monitoring the current of the neutral conductor
- electrical principles
- requirements of a power distribution system
- capabilities of power distribution system components
- Occupational health and Safety requirements

**Skill**

The ability to:

- plan and organise activities
- solve problems
- communicate clearly and precisely
- manage resources
- access and evaluate information
- monitor work activities
- read and interpret technical information
- install and monitor power distribution system
- identify and operate equipment
- use and maintain tools and equipment
- install and handle equipment
- conduct test and interpret results

**Skill**

The ability to:

- identify and rectify faults
- accurately carry out all recording, reporting and documentation activities
- work safely
- work in compliance with policies and procedures
- apply numeracy skills sufficient to make mathematical calculations necessary for the safe assembly, installation and testing of equipment
- apply literacy skills sufficient to interpret technical information

**(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)
- request/work sheet
- relevant technical documentation, manuals and manufacturer's specifications
- logs and work reporting documentation
- a range of equipment as identified in the Range Statement
- an environment in which power distribution system can be set up and operated
- a documentation outlining power requirements from which the candidate is able to work
- a production and production venue
- relevant tools, equipment and materials
- enterprise policies and procedures
- legislative, statutory and Occupational Health and Safety requirements
- Industry standards and codes of practice

**(5) Method of Assessment**

Assessment may incorporate a range of methods to assess performance and the application of essential underpinning knowledge, and might include:

- direct observation of the candidate provide and monitor power distribution
- evaluation of work plans and work activities led by the candidate
- oral or written questioning to assess knowledge of both the technical and management aspect of power distribution
- review of portfolios of evidence or third party workplace reports of on-the-job performance by the candidate
- practical demonstration of skills through the completion of a range of preparatory, production and management tasks associated with industry-current power distribution practices
- project or work activities that allow knowledge to be applied to specific production contexts and situations

Assessment should be conducted over time and will generally be in conjunction with assessment of other units of competency.

Simulated activities must closely reflect the workplace.



**(6) Context of Assessment**

This unit may be assessed on or off the job. Assessment should include practical demonstration either in the workplace or through a simulation. A range of methods to assess underpinning knowledge should support this.

**CRITICAL EMPLOYABILITY SKILLS**

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualification Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
Level 1.	Level 2.	Level 3.
<ul style="list-style-type: none"> <li>Carries out established processes</li> <li>Makes judgement of quality using given criteria</li> </ul>	<ul style="list-style-type: none"> <li>Manages process</li> <li>Selects the criteria for the evaluation process</li> </ul>	<ul style="list-style-type: none"> <li>Establishes principles and procedures</li> <li>Evaluates and reshapes process</li> <li>Establishes criteria for evaluation</li> </ul>

Collect, analyse and organise information	Level 3	
Communicate ideas and information	Level 3	
Plan and organise activities	Level 3	
Work with others and in team	Level 3	
Use mathematical ideas and techniques	Level 2	
Solve problems	Level 3	
Use technology	Level 2	

Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.

## ECELIG1303A: Co-ordinate production operations

### Competency Descriptor:

This unit describes the skills and knowledge required to monitor and coordinate the lighting production aspects of live theatre or event production. As such, it requires specific skills and knowledge in the technical area plus knowledge of supervisory roles and responsibilities.

Competency Field: Lighting

ELEMENT OF COMPETENCY	PERFORMANCE CRITERIA
1. Plan and organise workflow for lighting production operations	<p>1.1 Lighting requirements are accurately interpreted and confirmed with the relevant personnel through continuous liaison so that aesthetic, technical and script/production requirements are met.</p> <p>1.2 Information about the production schedule is obtained from available sources in accordance with enterprise policies and procedures.</p> <p>1.3 Realistic estimates and correct calculations of resources required for the lighting production are made in accordance with approved budget.</p> <p>1.4 Estimates, proposals, schedules and recommendations are carefully developed, justified and present to appropriate parties on time.</p> <p>1.5 Workloads of colleagues are correctly assessed and work is allocated to facilitate effective and efficient operations.</p> <p>1.6 Workflow and progress are assessed against agreed objectives and timelines and colleagues in the prioritisation of workload through supportive feedback and coaching.</p> <p>1.7 Resources are obtained and made available as required.</p> <p>1.8 Provide timely input is provided to relevant colleagues in relation to staffing needs and work is allocated in a way which gets the best fit between the skills and needs of individuals and the requirements of the production.</p>
2. Evaluate and monitor production operations	<p>2.1 Aspects of the production are checked and evaluated at the appropriate times and in accordance with production schedule, legal and Occupational Health and Safety requirements.</p> <p>2.2 Timely and relevant feedback and support on technical aspects is provided to appropriate personnel as required.</p>

- |    |     |  |
|----|-----|--|
|    | 2.3 | Modifications to the production are initiated or organised as required by the production in consultation with colleagues.            |
|    | 2.4 | Documents are checked to ensure that relevant information is updated as required in accordance with production requirements.         |
|    | 2.5 | The need for technical run-throughs are identified and negotiated as required.   |
| 3. |     | Solve problems and make decisions in relation to production operations   |
|    | 3.1 | Technical problems promptly identified and analysed from an operational perspective.   |
|    | 3.2 | Short-term action is initiated to resolve the immediate problem where appropriate.   |
|    | 3.3 | Problems are analysed for any long-term impact and potential solutions are assessed and implemented in consultation with colleagues. |
|    | 3.4 | Follow-up action to monitor the effectiveness of the solution is taken as required.  |
| 4. |     | Liaise with production colleagues to maximise quality  |
|    | 4.1 | Progress in meeting the requirements of the production are accurately and promptly assessed and reported to appropriate parties.     |
|    | 4.2 | Regular updates are provided to colleagues in relation to production issues and general progress.                                    |
|    | 4.3 | Relevant information is sought from colleagues to allow for timely response to changes in other areas of work.                       |
|    | 4.4 | Realistic suggestions for improving the use of resources and increasing production quality are made to appropriate parties.          |

## RANGE STATEMENT

This unit applies to activities associated with the essential operations linked to coordinating lighting production operations.

Colleagues may include:

- technicians
- artists
- directors
- designers
- stage managers
- other specialist staff

Lighting requirements may include:

- special effects
- strobes
- disperse lighting
- multiple coloured
- follow spot

Occupational Health and Safety requirements may include:

- national Occupational Health and Safety regulations
- relevant national and international standards, guidelines and codes of practice
- relevant local government legislation and regulation

Modifications may include:

- movement or replacement of physical elements
- changes to technical drawings or plans
- cue sheet modification
- introduction of new equipment

Appropriate times for evaluations may include:

- at key stages during set-up
- just prior to the event
- during performance breaks
- before, during or after technical run-throughs

Problems with production operations may include:

- conflicts between different production aspects
- space limitations
- need to adapt equipment/change equipment
- impacts of last minute artistic changes

## EVIDENCE GUIDE

Competency is to be demonstrated by the ability to coordinate lighting production operations in accordance with the performance criteria and the range listed within the range of variables statements.

### (1) Critical Aspects of Evidence

It is essential that competence be observed in the following aspects:

- extensive knowledge of lighting production operations, lighting equipment and their features and lighting production resources requirements
- ability to monitor technical operations to ensure production requirements are met
- ability to respond to a range of common technical problems and challenges
- effective communication skills in relation to coaching and leadership
- plan, delegate and monitor work activities
- determine resource requirements and provide appropriate resources
- coordinate lighting production to specification
- perform evaluation and quality checks
- source, interpret and apply technical information to work activities
- communicate and negotiate effectively with others in associated areas
- compliance with relevant Occupational Health and Safety requirements and industry standards
- perform all task in accordance with standard operating procedures, quality requirements and enterprise policies and procedures

### (2) Pre-requisite Relationship of Units

The pre-requisite for this unit is:

- Nil

**(3) Underpinning Knowledge and Skills**Knowledge

Knowledge of:

- technical principles and technologies involve in lighting operation
- the general scope and potential of lighting operations within different live production contexts, e.g. theatre, music, corporate
- the relationship between lighting operations and other technical and performance areas, including audio, vision systems and performance
- management techniques
- work supervision
- work planning and performance evaluation
- key aspects of the overall technical and creative production process for different types of live production
- interrelationships between key artistic and technical personnel
- leadership and management roles and responsibilities within the area of technical production
- typical work organisation and work planning methods within the area of technical production
- principles of effective delegation, including the provision of clear direction in devolving responsibility and accountability
- problem solving and decision making processes and techniques and their application to technical production in the workplace, in particular contingency management
- legal and Occupational Health and Safety issues that affect technical production in relation to short term work organisation
- effective communication techniques in relation to provision of feedback and support to colleagues

Skills

The ability to:

- plan and organise activities
- delegate responsibilities
- solve problems
- communicate clearly and precisely
- provide leadership
- manage resources
- access and evaluate information
- work safely
- monitor work activities

**(4) Resource Implications**

The following resources should be made available:

- workplace (actual enterprise or simulated)
- technical production equipment in the area of specialisation
- a venue where a production can be staged
- enterprise policies and procedures
- legislative, statutory and Occupational Health and Safety requirements
- Industry standards and codes of practice

**(5) Method of Assessment**

Assessment may incorporate a range of methods to assess performance and the application of essential underpinning knowledge, and might include:

- direct observation of the candidate coordination lighting production activities
- evaluation of work plans and work activities led by the candidate
- oral or written questioning to assess knowledge of both the technical and management aspect of lighting production
- review of portfolios of evidence or third party workplace reports of on-the-job performance by the candidate
- practical demonstration of skills through the completion of a range of preparatory, production and management tasks associated with industry-current lighting production practices
- project or work activities that allow knowledge to be applied to specific production contexts and situations

Assessment should be conducted over time and will generally be in conjunction with assessment of other units of competency.

#### (6) Context of Assessment

Assessment may take place on the job, off the job or a combination of both of these. However, assessment of this unit would most effectively be undertaken on the job due to the specific workplace environment requirements. Off the job assessment must be undertaken in a closely simulated workplace environment.

### CRITICAL EMPLOYABILITY SKILLS

Three levels of performance denote level of competency required to perform a task. These levels do not relate to the NCTVET Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

Levels of Competency		
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Please refer to the Assessment Guidelines for advice on how to use the Critical Employability Skills.