



Australian Government

CUALGT303 Install and test lighting equipment

Release: 1

CUALGT303 Install and test lighting equipment

Modification History

Release	Comments
Release 1	This version first released with CUA Creative Arts and Culture Training Package version 2.0.

Application

This unit describes the skills and knowledge required to prepare, install and test lighting equipment for productions in the screen, media and entertainment industries.

It applies to individuals who work as lighting technicians or lighting assistants. They work under supervision and follow lighting plans to rig and patch lights to control systems and test operation of lighting prior to live productions or filming.

On some productions and outside broadcasts, a qualified gaffer or chief electrician supervises installation of lighting equipment and required power sources.

Testing and tagging of electrical equipment must be carried out by a person with the relevant certificate of competency according to the performance specifications of:

- Australian Standard 3760: 2000 In-service safety inspection and testing of electrical equipment
- Australian Standard 3002: 1985 Electrical installations – shows and carnivals.

In some states and territories, a licensed electrician is required to check the electrical safety of lighting equipment. A licensed rigger is required to install some rigging equipment required for the installation detailed in this unit.

Unit Sector

Media and Entertainment Production – Lighting

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Determine lighting requirements for	1.1 Confirm overall lighting requirements with reference to lighting documentation and in consultation with production personnel

ELEMENT	PERFORMANCE CRITERIA
productions	1.2 Calculate power requirements and confirm power sources and locations meet production requirements 1.3 Identify patching, colour and focus requirements 1.4 Identify additional equipment or materials needed, and organise acquisition according to enterprise procedures
2. Prepare lighting equipment for installation	2.1 Confirm lighting equipment is safe and operational using appropriate test equipment and in line with enterprise procedures 2.2 Identify and address routine faults and repairs and refer complex matters to technical specialists in line with enterprise procedures 2.3 Prepare and assemble colour, equipment, lanterns and accessories in readiness for installation or transportation 2.4 Pre-rig lighting equipment in line with safety and licensing requirements 2.5 Prepare extension leads, looms and cables to comply with design specifications, enterprise standards and legal requirements
3. Install lighting	3.1 Install rigging and accessories according to legislative and enterprise safety requirements 3.2 Test, install and hang lanterns and accessories according to lighting plans, scale and manufacturer's specifications 3.3 Install power supplies according to lighting plans, location standards, manufacturer's specifications and safety regulations 3.4 Patch lanterns and accessories according to lighting or patch plans 3.5 Label rated cabling correctly and secure it safely, neatly and clear of any moving elements 3.6 Angle and focus lanterns according to lighting plans and artistic requirements 3.7 Check safety of equipment during and after installation in line with industry practice and legal requirements, and seek assistance if required
4. Install lighting control system	4.1 Connect dimmers to power, assign and turn on 4.2 Install and configure control desk and peripherals according to production requirements and required timeframes 4.3 Run and connect control cables and secure safely 4.4 Patch lanterns and channels to dimmers according to lighting or patch plan sheets, taking account of location-specific procedures and conditions

ELEMENT	PERFORMANCE CRITERIA
5. Check electrical safety	5.1 Complete installation and testing according to legislative and work health and safety (WHS) requirements 5.2 Check three-phase distribution and power calculations in collaboration with licensed electricians as required 5.3 Check and adjust according to safety standards if necessary, that power supply is sufficient for load requirements and distribution of electrical loading is within limits 5.4 Check cables used are correctly rated, including three-phase cable to dimmers, and that three-phase supplies are balanced, and adjust as required 5.5 Check cabling and connectors meet legislative and WHS requirements, and seek assistance if required
6. Test and adjust lighting	6.1 Test lighting, including communication system, control desk and peripherals in line with industry practice and safety requirements 6.2 Identify the need for adjustments and make modifications accordingly 6.3 Confirm lighting installation meets requirements in consultation with production personnel 6.4 Complete and update lighting documentation as required
7. Disassemble lighting equipment	7.1 Break down and carry lighting equipment and accessories in line with safety procedures 7.2 Clean and safely pack equipment to avoid damage and prepare for transport 7.3 Report and document equipment that is damaged or requires maintenance to relevant production personnel 7.4 Leave worksite in the original or improved condition

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

Skill	Performance Criteria	Description
Reading	1.1, 3.2-3.4, 3.6, 4.4	Interprets a range of information to determine and adhere to requirements

		Interprets sometimes complex legislative and safety regulations, building specifications and lighting plans, production and equipment schedules, and manufacturers' specifications relating to tools, equipment and materials
Writing	3.5, 6.4, 7.3	Uses clear and specialised language, specific terminology and appropriate structure and format to accurately, legibly and concisely record and report job outcomes and follow-up requirements
Oral Communication	1.1, 2.2, 5.2, 6.3, 7.3	- Uses clear and relevant language to convey information and report operational problems - Participates in an exchange of information, listening and questioning to clarify and confirm instructions
Numeracy	1.1, 1.2, 3.2, 5.2, 5.3, 6.1, 6.4	- Calculates power requirements, binary calculations for setting digital multiple X (DMX) dip switches, power settings and load requirements in response to lighting documentation and information from relevant personnel - Selects and uses a colour temperature meter, scale ruler and different types of light-measuring devices - Correctly enters data into lighting documentation
Navigate the world of work	1.4, 2.2, 2.4, 2.5, 3.1-3.4, 3.7, 4.2-4.4, 5.1-5.3, 5.4, 5.5, 6.1, 7.1	- Ensures workplace protocols and procedures, and legal and regulatory safety requirements are met in the planning and completion of lighting tasks - Accepts responsibility for tasks within boundaries of own role, and seeks assistance as required
Interact with others	1.1, 3.7, 5.2, 5.5, 6.3, 7.3	- Works collaboratively to complete lighting tasks - Makes practical suggestions that result in minor modifications to lighting plans
Get the work done	1.2-1.4, 2.1, 2.3-2.5, 3.1-3.3, 3.6, 4.1, 4.2, 5.3, 5.4, 6.1, 6.2, 7.1, 7.4	- Adopts a logical and methodical approach to safe preparation, assembly and testing of equipment - Responds to predictable problems related to own role - Uses tools and test equipment necessary to install and maintain lighting equipment - Makes decisions about adjustments to lighting and takes steps to ensure installation meets lighting plan, production and safety requirements

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
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Code and title current version	Code and title previous version	Comments	Equivalence status
CUALGT303 Install and test lighting equipment	CUFLGT301A Prepare, install and test lighting equipment	Updated to meet Standards for Training Packages. Unit title changed. Minor edits to elements and performance criteria.	Equivalent unit

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=1db201d9-4006-4430-839f-382ef6b803d5>

Assessment Requirements for CUALGT303 Install and test lighting equipment

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Performance Evidence

Evidence of the ability to:

- determine lighting installation requirements from information in lighting plans
- check availability and condition of lighting equipment, lanterns and accessories required for production
- safely install and disassemble lighting equipment, lanterns and accessories in line with production requirements and enterprise procedures
- check power sources at locations are adequate and safe
- safely connect inputs to lighting control desks
- allow adequate time to test and modify lighting equipment and control desks prior to production
- report the need to repair damaged or malfunctioning equipment and accessories in a timely fashion
- produce and adjust documentation throughout process, according to enterprise procedures, to support a smooth production.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- describe roles and responsibilities of production personnel involved in lighting operations
- identify typical problems with installing and testing lighting equipment and briefly describe solutions
- explain key components of lighting plans, including scale, position and orientation, and how they are used when setting up lighting
- describe the process for hanging lanterns, essential hardware used, and basic principles used, such as accommodating key, fill and back light

- describe how different combinations of lanterns and accessories, and lighting and lighting control systems are used for different types of productions
- describe how colours are used in lighting
- describe techniques for rigging and hanging lighting equipment and associated licensing requirements
- describe safety requirements and procedures that apply to the installation of lighting equipment and working with electrical power, including manual handling.

Assessment Conditions

Assessment must be conducted in a safe environment where evidence gathered demonstrates consistent performance of typical activities experienced in creative arts industry environments. The assessment environment must include access to:

- a production venue
- lighting equipment and accessories
- lighting plans.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational educational and training legislation, frameworks and/or standards.

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