



**Australian Government**

# **CUALGT313 Install and test lighting equipment**

**Release: 1**

# CUALGT313 Install and test lighting equipment

## Modification History

| Release   | Comments                                                                                     |
|-----------|----------------------------------------------------------------------------------------------|
| Release 1 | This version first released with CUA Creative Arts and Culture Training Package Version 5.0. |

## 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.

The unit applies to those who work as lighting technicians or lighting assistants. It involves the preparation and installation of lighting control systems in various production environments. This includes working under supervision and controlling systems and test operation of lighting prior to live productions or filming.

Some productions and outside broadcasts require a qualified gaffer or chief electrician to supervise installation of lighting equipment and required power sources.

Testing and tagging of electrical equipment must be carried out by a person with the required 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.

Users are advised to check with the relevant licensing authority for requirements.

## 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                            | 1.1 Confirm overall lighting requirements with reference to                                            |

| ELEMENT                                        | PERFORMANCE CRITERIA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| requirements for productions                   | <p>lighting documentation and in consultation with production personnel</p> <p>1.2 Calculate power requirements and confirm power sources and locations meet production requirements</p> <p>1.3 Identify patching, colour and focus requirements according to enterprise procedures</p> <p>1.4 Identify and acquire additional equipment or materials needed according to enterprise procedures</p>                                                                                                                                                                                                                                                                                                                                                                    |
| 2. Prepare lighting equipment for installation | <p>2.1 Confirm lighting equipment is safe and operational according to enterprise requirements</p> <p>2.2 Identify and address routine faults and repairs</p> <p>2.3 Refer complex matters to technical specialists according to enterprise procedures</p> <p>2.4 Prepare and assemble colour, equipment, lanterns and accessories in preparation for installation and transportation</p> <p>2.5 Prepare extension leads, looms and cables to comply with design specifications, enterprise standards and legal requirements</p>                                                                                                                                                                                                                                       |
| 3. Install lighting                            | <p>3.1 Install rigging and accessories according to legislative and enterprise safety requirements</p> <p>3.2 Test, install and hang lanterns and accessories according to lighting plans, scale and manufacturer's specifications</p> <p>3.3 Install power supplies according to lighting plans, location standards, manufacturer's specifications and safety regulations</p> <p>3.4 Patch lanterns and accessories according to lighting and patch plans</p> <p>3.5 Label rated cabling correctly and secure cabling according to safety requirements</p> <p>3.6 Install lanterns according to lighting plans and artistic requirements</p> <p>3.7 Check safety of equipment during and after installation according to industry practice and legal requirements</p> |
| 4. Install lighting control system             | <p>4.1 Install and configure control desk and peripherals according to production requirements and required timeframes</p> <p>4.2 Run and connect control cables according to safety requirements</p> <p>4.3 Patch DMX, address fixtures and set fixture modes according to requirements</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

| ELEMENT                                                 | PERFORMANCE CRITERIA                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5. Check electrical safety                              | <p>5.1 Complete installation and testing according to legislative and work health and safety (WHS) requirements</p> <p>5.2 Check three-phase distribution and power calculations in collaboration with licensed electricians as required</p> <p>5.3 Check and adjust power supply according to safety standards as required</p> <p>5.4 Check cables used are correctly rated</p> <p>5.5 Check cabling and connectors meet legislative and WHS requirements, and seek assistance as required</p> |
| 6. Test and adjust lighting                             | <p>6.1 Test lighting, including communication system, control desk and peripherals according to industry practice and safety requirements</p> <p>6.2 Confirm lighting installation meets requirements in consultation with production personnel</p> <p>6.3 Complete and update lighting documentation as required</p>                                                                                                                                                                           |
| 7. Disassemble, package and document lighting equipment | <p>7.1 Disassemble and carry lighting equipment and accessories in line with safety procedures</p> <p>7.2 Clean and safely pack equipment to avoid damage and prepare for transport</p> <p>7.3 Report and document equipment that is damaged or requires maintenance to required production personnel</p> <p>7.4 Restore worksite to original or improved condition</p>                                                                                                                         |

## Foundation Skills

*This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.*

| SKILL              | DESCRIPTION                                                                                                                                                                                                                                                |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Reading            | <ul style="list-style-type: none"><li>Interprets various forms of documentation such as complex legislative and safety regulations, building specifications, lighting plans, production and equipment schedules, and manufacturer specifications</li></ul> |
| Writing            | <ul style="list-style-type: none"><li>Uses clear and specialised industry language in written correspondence</li><li>Records job outcomes legibly and concisely and communicates follow-up requirements as required</li></ul>                              |
| Oral Communication | <ul style="list-style-type: none"><li>Uses clear and required language to convey information and report operational problems</li><li>Participates in an exchange of information, using listening and</li></ul>                                             |

| SKILL           | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 | questioning techniques to clarify and confirm instructions                                                                                                                                                                                                                                                                                                                   |
| Numeracy        | <ul style="list-style-type: none"><li>• Calculates power requirements according to industry protocol and information from required personnel</li><li>• Demonstrates ability to operate a colour temperature meter, scale ruler and different types of light-measuring devices</li><li>• Enters data accurately into lighting documentation</li></ul>                         |
| Self-management | <ul style="list-style-type: none"><li>• Accepts responsibility for tasks within boundaries of own role, and seeks assistance as required</li><li>• Makes decisions about adjustments to lighting and takes steps to ensure installation meets lighting plan, production and safety requirements</li></ul>                                                                    |
| Teamwork        | <ul style="list-style-type: none"><li>• Works collaboratively to complete lighting tasks</li><li>• Makes practical suggestions that result in minor modifications to lighting plans</li></ul>                                                                                                                                                                                |
| Problem solving | <ul style="list-style-type: none"><li>• Adopts a logical and methodical approach to safe preparation, assembly and testing of equipment</li><li>• Responds to predictable problems related to own role</li><li>• Ensures workplace protocols and procedures, and legal and regulatory safety requirements are met in the planning and completion of lighting tasks</li></ul> |
| Technology      | <ul style="list-style-type: none"><li>• Uses tools and test equipment necessary to install and maintain lighting equipment</li></ul>                                                                                                                                                                                                                                         |

## Unit Mapping Information

Supersedes and is equivalent to CUALGT303 Install and test lighting equipment.

## Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=1db201d9-4006-4430-839f-382ef6b803d5>

# Assessment Requirements for CUALGT313 Install and test lighting equipment

## Modification History

| Release   | Comments                                                                                     |
|-----------|----------------------------------------------------------------------------------------------|
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## Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- install and test lighting equipment for at least two different productions.

In the course of the above, the candidate must:

- determine lighting installation requirements from information in lighting plans
- check availability and condition of lighting equipment
- install and disassemble lighting equipment, lanterns and accessories in line with production requirements and organisational and safety procedures
- check power sources at locations are adequate and safe
- connect inputs to lighting control desks using safety procedures
- 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 organisational procedures.

## Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

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

- use of different combinations of lanterns and accessories, and lighting and lighting control systems for different types of productions
- how colours are used in lighting
- general features of DMX cables, RDM and control systems
- safety requirements and procedures that apply to the installation of lighting equipment and working with electrical power, including manual handling.

## Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

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

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

## Links

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