Occupational Standards of Competence

Lighting Operations

Level 3

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Heart Trust/NTA Jamaica

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Qualification Overview

NVQB

in

Lighting Operations

Level 3

Qualification Overview

The NVQB in Lighting Operations Level 3 is designed to provide training, assessment and recognized certification for persons in the lighting operations sector. Candidates must be able to operate lighting, program lighting consoles, provide dynamic lighting systems, plan prepare work and communicate, coordinate lighting operations, carry out work orders, diagnose, repair and maintain equipment and assist emergency personnel, where necessary, within the lighting industry in accordance with industry standards.

Who is this qualification for?

This qualification is aimed at persons who have a level of autonomy within their job roles in the lighting sector. The base skills are such that progression can be made to higher levels within the lighting sector. Competencies are for persons who are likely to be in roles where for example their duties include:

- Setting up for a particular show or event
- Drawing and interpreting lighting plans
- Programming, operating and designing of lighting
- Use and maintenance of lighting equipment

Jobs within the occupational area include:

- Sparks/Electrics
- Best boy electric
- Gaffer
- Lighting Technician
- Lighting Designer
- Board Operator
- Follow spot operator
- Chief Lighting Technician

This list is not exhaustive and only serves to illustrate the breadth of the qualification.

A05403 - APPROVED NATIONAL VOCATIONAL QUALIFICATION STRUCTURE

LIGHTING OPERATIONS - LEVEL 3

To achieve the full qualification, candidates must complete **all** nine (9) Mandatory units.

Mandatory Units (All must be completed)	**Code**

1. Operate lighting using advanced techniques   **U85303**

    1.1   Determine production requirements
    1.2   Connect and format advanced fixtures to control system
    1.3   Program console to receive pre-recorded material from an external source

2. Provide dynamic lighting systems   **U85403**

    2.1   Establish requirements
    2.2   Prepare for the provision of dynamic lighting systems
    2.3   Install and test system

3. Program and operate lighting consoles   **U85503**

    3.1   Devise lighting effects
    3.2   Set up lighting console
    3.3   Set up effects console
    3.4   Program console
    3.5   Prepare for console operation
    3.6   Participate in technical rehearsal
    3.7   Operate console during production
    3.8   Monitor technical quality during production
    3.9   Monitor effects on lighting during the production
    3.10   Shut down the console

4. Coordinate lighting production operations   **U85603**

    4.1   Plan and organise workflow for lighting production operations
    4.2   Evaluate and monitor production operations
    4.3   Solve problems and make decisions in relation to production operations
    4.4   Liaise with production colleagues to maximise quality

5. Communicate in the lighting operations environment   **U85703**

  5.1   Share information on own job role
  5.2   Develop and maintain working relationships
  5.3   Contribute to workgroup activities
  5.4   Deal with issues, problems and conflicts

6. Plan and prepare to work in the lighting sector   **U85803**

  6.1   Plan to work
  6.2   Prepare to work
  6.3   Follow safe work practices

7. Assist emergency personnel   **U55902**

  7.1   Deal with injuries and signs of illnesses
  7.2   Follow emergency procedures
  7.3   Report the emergency

8. Carry out work orders   **U85903**

  8.1   Receive equipment
  8.2   Test equipment
  8.3   Carry out work
  8.4   Finish work

9. Diagnose, repair and maintain equipment   **U86003**

  9.1   Conduct diagnostics on equipment
  9.2   Repair equipment
  9.3   Maintain equipment

U87303   **Operate lighting using advanced techniques**

Unit Descriptor:

> This unit describes the knowledge, skills and attitudes required to connect the lighting system to advanced fixtures and program the console accordingly. It involves a degree of experimentation with the possibilities presented by the advanced fixtures and therefore the unit may be undertaken in consultation with a lighting designer or by the designer as an integral part of the design process.

ELEMENT	PERFORMANCE CRITERIA

To be competent you must achieve the following:

1. Determine production requirements	1.1 Establish the creative and technical parameters by evaluating the production **materials**.
	1.2 Liaise with **colleagues** to determine the scope of the lighting requirement.
	1.3 Assess the capabilities of equipment to deliver the required effects.
	1.4 Check that **documentation** relates to policies and standards.
2. Connect and format advanced fixtures to control system	2.1 Check the console fixture library to ensure correct personalities are connected to the fixtures to make them operational.
	2.2 Connect the console to **advanced fixtures and lighting control attachments** through relevant control protocol and check to ensure designer's control requirements can be achieved.
	2.3 Test the capabilities of **advanced fixtures and lighting control attachments** by experimenting with them.
	2.4 Set up soft patch to **ensure advanced fixtures and lighting control attachments** are connected to relevant control surfaces.

	2.5	Format the presets for **advanced fixtures and lighting control attachments** in accordance with the requirements of designer.
	2.6	Maintain electronic and paper plots accurately in accordance with changes to original set-up.
3. Program console to receive pre-recorded material from an external source	3.1	Assess the protocol, programme type and connectivity of external source material for compatibility with main console.
	3.2	Back-up the external source material prior to transfer to main console.
	3.3	Assess the need for any changes to source material to address venue system and determine whether changes can be made on the external device of main console.
	3.4	Set up the main console and external device and use appropriate techniques to transfer material.
	3.5	Make checks to ensure successful transfer and take action accordingly.

RANGE STATEMENT

All range statements must be assessed:

1. **Materials:**

   - Cue sheets
   - Script
   - Story board
   - Focus notes
   - Running sheets
   - Lighting plan
   - Patch sheets
   - Equipment lists
   - Colour lists
   - Manuals
   - Instructions for computerized boards
   - Instructions for advanced fixtures and lighting control attachments

2. **Colleagues:**

   - Designer
   - Director
   - Stage Manager
   - Director of photography
   - Gaffer
   - Programmers for advanced fixtures
   - Other specialist staff

3. **Documentation:**

   - Electrical standards in accordance with regulations
   - Production and/ or venue requirements
   - Organization standards
   - Technical constraints
   - Other resource constraints
   - Production schedule
   - Organizational and legislative occupational health and safety requirements
   - Lighting plan and other documents as appropriate

4. **Advanced fixtures and lighting control attachments:**

   - What you see is what you get (WYSIWYG) and computer programming rendering software
   - Robotic and automated stage equipment
   - Digitally controlled projection equipment
   - Gels (colour changes)

- Colour scrollers
- Automated lighting fixtures; both motorized yoke and moving mirror
- Special effects generating equipment

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UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

1. Who is responsible for the design interpretation and issues associated with maintaining design integrity in the context of lighting.

2. How to visualize the effects of lighting on stage.

3. What are the techniques for translating concepts into creative and workable solutions.

4. How lighting control concepts and advanced fixtures are used in a wide range of lighting systems.

5. How to use and operate a wide range of lanterns and accessories (optical and mechanical).

6. What are the elements of lighting design and their impact on lighting.

7. How to resolve erratic wireless data connection and non-power up problems with fixtures.

8. How to use colour recognition and various colour media in lighting.

9. What are and how to use control protocols for a range of automated lighting fixtures.

10. How to use documentation and back-up systems in conjunction with lighting control.

11. What are the relevant organizational and legislative occupational health and safety requirements, including working with electricity.

12. What are basic electronics.

13. How to use communication and negotiation skills when liaising with designers and directors.

14. What is logical programming and sequencing for automated lighting.

15. How to read and interpret technical information.

16. How to plan and organize work.

17. How to solve problems.

18. How to identify and operate equipment.

19. How to use and maintain tools and equipment.

20. How to assess capabilities of equipment.

21. How to determine requirements for meeting production specifications.

22. How to install and handle equipment.

23. How to conduct tests and interpret results.

24. How to identify and make changes and modifications.

25. How to program the main console.

26. How to communicate effectively with your colleagues.

27. How to accurately carry out all recording, reporting and documentation activities.

28. How to work in compliance with policies and procedures e.g. health and safety.

29. How to apply literacy skills sufficiently in order to interpret production documentation.

30. How to apply numeracy skills sufficiently in order to complete simple mathematical calculations and memorize numbers for channel selection.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates must prove that they can carry out **all** the elements, meeting **all** of the performance criteria, range and underpinning knowledge **on more than one occasion**. This evidence must come from a real working environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence of competence may be obtained through a variety of methods including:

- Observation
- Written/oral questioning
- Written evidence
- Witness testimony
- Professional discussion

(3) Context of Assessment

This unit may be assessed on the job, off the job, or a combination of both. Where assessment occurs off the job, that is, the candidate is not in productive work then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation may **be used** in a realistic work situation.

U87403   **Provide dynamic lighting systems**

Unit Descriptor:

> This unit describes the knowledge, skills and attitudes 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, LED fixtures, HMI and kinos.

ELEMENT	PERFORMANCE CRITERIA

To be competent you must achieve the following:

1.	Establish requirements	1.1	Interpret **lighting documentation** and consult with relevant **personne**l to confirm requirements.
		1.2	Obtain information about the production schedule from available sources.
		1.3	Prepare realistic estimates and calculate resources required for dynamic lighting production in accordance with approved budget.
		1.4	Assess the capabilities of **equipment** and use **lighting elements** to produce the required effects and obtain and make available the resources required.
		1.5	Calculate power requirements and identify and confirm power sources and location to ensure that they meet production requirements.
2.	Prepare for provision of dynamic lighting systems	2.1	Allocate the fixtures to DMX universe following the required procedures.
		2.2	Lay the distribution cables in such a way as to provide signal amplification, separation and termination where necessary.
		2.3	Draw data schematics indicating data universe identities, fixture addresses and identity numbers.
		2.4	Check the correct operation of the fixtures' parameters using a test instrument or built in test facility.

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2.5   Determine the limitations of **equipment** and provide the necessary solutions to comply with the lighting design requirements.

2.6   Connect the fixtures to the ballast dimmer or relevant lighting control unit.

2.7   Present the fixtures' address information to the console operator in a clear and concise manner.

2.8   Identify and program software versions on fixtures and control devices.

3.   Install and test system

3.1   Check control devices for relevant fixture libraries and source alternative software when necessary.

3.2   Attach fixtures to the truss or scaffold structure at height and identify all safety devices.

3.3   Check safety devices and inspect for suitability and correct operation.

3.4   Handle and store **equipment** safely; especially those with multiple moving parts.

3.5   Insert light altering components such as gel strings, gobos or diffusion lenses and note the allocation on the lighting plan.

3.6   Use test instruments to identify data characteristics from an output control device such as a lighting console and check calibration of fixtures for harmonious consistency with other units.

3.7   Change and re-align lamps in the fixture for optimum output.

3.8   Record any non-standard gobo and colour assignments for fixtures on the rig in accordance with established procedures.

3.9   Determine faulty data systems, record results, identify and replace faulty components in the network or internally within a fixture and replace it safely.

3.10   Provide dynamic lighting in accordance with lighting design requirements.

RANGE STATEMENT

All range statements must be assessed:

1. Lighting documentation:

- Full equipment schedule
- Power requirements
- Equipment instructions and/ or manufacturer instructions
- Lighting plan
- Patch sheets
- Story boards
- Packing, transport or equipment lists
- Building specifications
- Colour cutting schedules
- Hire or loan contracts

2. Personnel:

- Other technicians
- Specialists
- Supervisors
- Managers
- Artistic and creative personnel e.g. lighting designer, director
- Production team
- External suppliers

3. Equipment:

- Lamps, lanterns and accessories
- Dimmers
- Rigs and accessories
- Analogue or digital multi-meters
- Light meter
- DMX cable tester
- Control desk
- Control system
- Test lamp

4. Lighting elements:

- Practicals
- Electric / electronic props
- Special effects e.g. strobes, mirror balls and motors, smoke and fog machines, ultraviolet light, oil and effects projectors

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

1. How to plan and organize activities.

2. How to solve problems.

3. How to communicate clearly with colleagues.

4. How to manage resources.

5. How to access and evaluate information.

6. How to monitor work activities.

7. How to read and interpret technical information.

8. How to identify and operate equipment.

9. How to use and maintain tools and equipment.

10. How to install and handle equipment.

11. How to conduct tests and interpret results.

12. How to identify and rectify faults.

13. How to carry out all recording, reporting and documentation activities.

14. How to work safely.

15. How to work in compliance with policies and procedures e.g. health and safety.

16. How to apply numeracy skills sufficiently in order to make mathematical calculations necessary for the safe assembly, installation and testing of equipment.

17. How to apply literacy skills sufficiently in order to interpret a lighting plant.

18. What are the characteristics and features of dynamic lighting.

19. What are the resource requirements for dynamic lighting.

20. Who is responsible for allocating DMX address numbers in a DMX universe to make optimum use of the front-end control device and the lighting console.

21. How to effectively distribute data to large numbers of fixtures, over multiple DMX universes and keep a record system layout and isolate branches.

22.   What are the alternative data protocols available.

23.   How mechanical processes manipulate the light altering perimeters of a given fixture.

24.   How optics of a unit impact light output.

25.   How effects of the age of lamps and their alignment affect the light output and what action to take to improve this.

26.   What are the basic principles of subtractive colour mixing.

27.   What is the standard USITT pin configuration of 5 pin and 3 pin XLR.

28.   How to test for the presence and quality of the DMX signal.

29.   How to research, and file for reference, the parameter specifications of different fixtures available.

30.   What is correct and safe hanging or placing of a fixture; both for its operation and for the desired effect.

31.   What are safety accessories and how to inspect them during the rigging process.

32.   How gel strings are constructed and the importance of materials used.

33.   What are the principles of optical, mechanical and magnetic encoding assemblies.

34.   How to identify and replace faulty components.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

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(3) Context of Assessment

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Simulation **may be used** in a realistic work situation.

U87503   **Program and operate lighting consoles**

Unit Descriptor: This unit describes the knowledge, skills and attitudes required to program, operate and monitor a lighting console/desk and to monitor lighting quality during rehearsal, live productions and on-set.

ELEMENT	PERFORMANCE CRITERIA

To be competent you must achieve the following:

1.	Devise lighting effects	1.1	Liaise closely with the **relevant personnel** and interpret and confirm lighting requirements to meet aesthetic and technical production and script/production.
		1.2	Generate a **lighting plan** for the execution of lighting which provides creative solutions to technical and production issues at hand.
		1.3	Devise lighting effects to ensure correct visual interpretation of the script/production requirements through close liaison with **relevant personnel**.
		1.4	Ensure 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	Patch luminaire circuits to appropriate circuits.
		2.2	Patch dimmers to appropriate channel numbers.
		2.3	Balance the picture to achieve the required effect according to the style and nature of the production.
		2.4	Record and replay the lighting state from memory as required.
3.	Set up effects console	3.1	Set up and test lighting effects.

	3.2	Coordinate sound-to-light feeds with **relevant personnel** and plug to the console effectively
	3.3	Execute changes to the planned patch accurately and promptly.
	3.4	Control all variables of moving lights to achieve the desired results.
4. Program console	4.1	Identify pre-programmed lighting effects and manipulate to achieve desired effects.
	4.2	Install light software, configure and customize to meet aesthetic and technical production requirements.
	4.3	Program consoles to control all lighting effects and maintain the continuity of lighting the production.
	4.4	Modify programming as required to enhance the lighting effect or in response to the direction of appropriate personnel.
5. Prepare for console operation	5.1	Check to ensure that all lighting console operations have been identified, implemented and documented.
	5.2	Check all **operational aspects of the lighting console** and test to ensure the readiness to provide lighting control.
	5.3	Connect all luminaires to the correct channel number, voltage and current rating and frequency.
	5.4	Test communications **equipment** to ensure that they are in correct working order
	5.5	Rectify any problems and faults and inform personnel of any ongoing problems.
6. Participate in technical rehearsal	6.1	Rehearse technical aspects of the production in coordination with specified parties.

		6.2	Execute changes to the set-up of the lighting console on direction and according to performance requirements and rehearse the changes.
		6.3	Implement changes and modify cue sheets according to final production requirements.
		6.4	Update any pre-programmed automated systems in use to reflect the final filming requirements.
7.	Operate console during production	7.1	Execute lighting changes on cue in accordance with the running/call sheet, directions from **relevant personnel** and requirements of the production.
		7.2	**Communicate** continually with **relevant personnel** throughout the production to achieve the desired result.
		7.3	React to cues received from **relevant personnel** to ensure consistency of timing without undue lapses.
		7.4	Adjust the levels of channels smoothly during the production as required and undertake cross fades with due sensitivity to the pace of the action.
		7.5	Execute changes to channel numbers, luminaires and dimmers quickly.
		7.6	React to any **equipment** malfunctions to rectify faults safely and efficiently and inform **relevant personnel** according to organizational procedures.
8.	Monitor technical quality during production	8.1	Liaise continually with **relevant personnel** during production.
		8.2	Take steps to ensure that lighting effects and **lighting quality** match the required mood and effect.
		8.3	Maintain continuity of lighting throughout the production.

		8.4	Amend lighting effects to match any identified limitations, recording **equipment** or other production limitations and inform **relevant personnel** according to organizational procedures.
		8.5	Take necessary action 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	Recognize and eliminate unwanted shadows caused by equipment, obstructions and personnel where required.
		9.2	Monitor unwanted light changes and recognize and take action to rectify and notify **relevant personnel**.
		9.3	Position lights or lighting accessories to keep light out of the camera lens when shooting is being undertaken.
10.	Shut down the console	10.1	Shut down **equipment** safely following manufacturer's instructions and enterprise
		10.2	Complete any required **documentation**.

RANGE STATEMENT

All range statements must be assessed:

1. **Personnel:**

   - Supervisor/head of department
   - Directors
   - Produces
   - Designers
   - Camera operators/assistants
   - Grips/key grip
   - Technical director/specialists
   - Floor managers

2. **Lighting plan:**

   - Hand-written plot
   - Computer generated plot

3. **Equipment:**

   - Lighting console
   - Communications equipment

4. **Operational aspects of the lighting console:**

   - Operational controls
   - Dimmer channels and profiles
   - Intelligent light software
   - Peripherals
   - Soft patch
   - Riggers or designer controls
   - Control protocol

5. **Communication:**

   - Headsets
   - Signals e.g. via hand

6. **Lighting quality:**

   - Dispersion
   - Direction, filters, object, pictoral lighting style
   - Intensity
   - Colour, temperature

7. **Documentation:**

- Fault reports and accident reports
- Cue sheets and modifications to cue sheets
- Focus notes
- Running sheets
- Time cards/rate sheets

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

1.   What are the basic elements of lighting design.

2.   What is the range of lighting equipment.

3.   What is the range of lighting accessories.

4.   What are different types of lanterns.

5.   What is range of lighting systems; manual and computer.

6.   What is range of lighting control systems.

7.   What are the general lighting terms and how these terms may vary between different systems or how different terms can refer to the same functions on different systems.

8.   How lighting control concepts are used in various lighting systems.

9.   What are lighting effects and masking.

10.   How to do basic maintenance of lighting equipment.

11.   What is DMX distribution.

12.   What is colour recognition.

13.   What are the various colour media used in lighting.

14.   How to understand the relationship between colour and light.

15.   What is relevant work cover and other safety legislation.

16.   What is the relevant occupational health and safety legislation.

17.   What is electricity and application of safe electrical work practices.

18.   How to interpret technical and electrical plans.

19.   How to measure and re-calculate cues.

20.   How to memorize numbers so that the channel numbers on lighting boards can be remembered.

21.   How to use memorization of numbers so that channel numbers on lighting boards can be remembered.

22.   How documentation and back-up systems are used in conjunction with lighting control.

23.   What are the film and/or television traditions, protocol and terminology.

24.   What are enterprise policies and procedures.

25.   What are legislative, statutory and occupational health and safety requirements.

26.   What are industry standards and codes of practice.

27.   How to plan and organize activities.

28.   How to solve problems.

29.   How to communicate clearly and concisely.

30.   How to manage resources.

31.   How to access and evaluate information.

32.   How to program and operate consoles.

33.   How to read and interpret technical information.

34.   How to identify and operate equipment.

35.   How to install and handle equipment.

36.   How to conduct test and interpret results.

37.   How to identify and rectify faults.

38.   How to accurately carry out all recording, reporting and documentation activities.

39.   How to work safely.

40.   How to comply with work policies and procedures.

41.   How to apply numeracy skills sufficiently in order to make mathematical calculations necessary for the safe assembly, installation and testing of equipment.

42.   How to apply literacy skills sufficiently in order to interpret a lighting plan.

43.   How to complete a simple mathematical calculation using a scale rule.

EVIDENCE GUIDE

For assessment purposes:

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The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation **may be used** in a realistic work situation.

U87603   **Coordinate lighting production operations**

Unit Descriptor:

> This unit describes the knowledge, skills and attitudes required to monitor and coordinate the lighting production aspects of live theatre, film and television production or event production. As such, it requires specific skills and knowledge in technical areas plus knowledge of supervisory roles and responsibilities.

ELEMENT	PERFORMANCE CRITERIA

To be competent you must achieve the following:

1. Plan and organize workflow for lighting production operations

1.1 Interpret **lighting requirements** accurately with relevant personnel to ensure that aesthetic, technical and script/production requirements are met.

1.2 Obtain information about the production schedule from available sources.

1.3 Make realistic estimates and calculate the resources required for the lighting production in accordance with approved budget.

1.4 Develop estimates, proposals, schedules and recommendations accurately according to organizational procedures, justify and present to designated parties on time.

1.5 Assess workloads of **colleagues** and allocate work to facilitate effective and efficient operations.

1.6 Assess workflow and progress against agreed objectives, timelines and **colleagues** in the prioritization of workload through supportive feedback and coaching.

1.7 Obtain resources and make available as required.

		1.8	Provide timely input to relevant **colleagues** in relation to staffing needs and allocate work in a way which obtains the best fit between the skills and needs of individuals and the requirements of production.
2.	Evaluate and monitor production operations	2.1	Check aspects of production and evaluate at appropriate **times** and in accordance with production schedule, **legal and occupational health and safety requirements**.
		2.2	Provide timely and relevant feedback and support on technical aspects to designated personnel as required.
		2.3	Initiate or organize **modifications** to production as required by the production in consultation with **colleagues**.
		2.4	Check documents to ensure that relevant information is updated as required.
		2.5	Identify and negotiate the need for technical run-throughs.
3.	Solve problems and make decisions in relation to production operations	3.1	Identify **technical problems** promptly and analyze from an operational perspective.
		3.2	Initiate short term action to resolve the immediate problem where necessary.
		3.3	Analyze problems for any long term impact and assess and implement solutions with **colleagues**.
		3.4	Take follow-up action to monitor the effectiveness of the solution as required.
4.	Liaise with production colleagues to maximize quality	4.1	Assess and report progress in meeting the requirements of production to relevant parties.
		4.2	Provide regular updates to **colleagues** in relation to production issues and general progress.

4.3   Seek relevant information from colleagues to allow for timely responses to changes in other areas of work.

4.4   Make realistic suggestions for improving the use of resources and increasing production quality to relevant parties.

RANGE STATEMENT

All range statements must be assessed:

1. **Lighting requirements:**

    *   Special effects
    *   Strobes
    *   Disperse lighting, kinos
    *   Multi-coloured
    *   Follow spot
    *   HMI/daylight simulation

2. **Colleagues:**

    *   Technicians
    *   Artists
    *   Directors
    *   Designers
    *   Stage managers
    *   Gaffer
    *   Other specialist staff

3. **Times:**

    *   Key stages during set-up
    *   Just prior to event or shooting
    *   During performance breaks
    *   Before, during or after technical run-throughs

4. **Legal and occupational health and safety requirements:**

    *   National occupational health and safety regulations
    *   Relevant national and international standards, guidelines and codes of practice
    *   Relevant local government legislation and regulation

5. **Modifications:**

    *   Movement or replacement of physical elements
    *   Changes to technical drawings or plans
    *   Cue sheets
    *   Introduction of new equipment

6. **Technical problems:**

- Conflicts between different production aspects
- Space limitations
- Need to adapt equipment /change equipment
- Impacts of last minute artistic changes

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

1. What are the technical principles and technologies involved in lighting operations.

2. What is the general scope and potential of lighting operations within different live production contexts, e.g. theatre, music, corporate.

3. What is the relationship between lighting operations and other technical and performance area, including audio, vision systems and performance.

4. What are the different available management techniques.

5. What is work supervision.

6. What is work planning and performance evaluation.

7. What are the key aspects of overall technical and creative production process for different types of live production.

8. What are the inter-relationships between key artistic and technical personnel.

9. What are the leadership and management roles and responsibilities within the area of technical production.

10. What are typical work organization and work planning methods within the area of technical production.

11. What are the principles of effective delegation, including provision of clear direction in developing responsibility and accountability.

12. What are problem-solving and decision-making processes and techniques; their application to legal technical production in workplace, in particular contingency management.

13. What are the legal and occupational health and safety issues that affect technical production in relation to short term work organization.

14. What are effective communication techniques in relation to provision of feedback and support to colleagues.

15. How to plan and organize activities.

16. How to delegate responsibilities.

17. How to solve problems.

18. How to communicate clearly and precisely with colleagues.

19.   How to provide leadership to other colleagues.

20.   How to manage resources.

21.   How to access and evaluate information.

22.   How to work safely.

23.   How to monitor work activities.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates must prove that they can carry out **all** the elements, meeting **all** of the performance criteria, range and underpinning knowledge **on more than one occasion**. This evidence must come from a real working environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence of competence may be obtained through a variety of methods including:

- Observation
- Written/oral questioning
- Written evidence
- Witness testimony
- Professional discussion

(3) Context of Assessment

This unit may be assessed on the job, off the job, or a combination of both. Where assessment occurs off the job, that is, the candidate is not in productive work then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation **may be used** in a realistic work situation.

U87703   **Communicate in the lighting operations environment**

Unit Descriptor:

> This unit describes the knowledge, skills and attitudes required to communicate and work effectively with crew members at various venues.

ELEMENT	PERFORMANCE CRITERIA

To be competent you must achieve the following:

1. Share information on own job role	1.1 State and share relevant **information** linked to own job role with workgroup members.
	1.2 Share **information** using different methods of **communication**.
	1.3 Explain the importance of sharing relevant **information**.
2. Develop and maintain working relationships	2.1 Develop and maintain good working relationships with workgroup members.
	2.2 Identify responsibilities and duties in relation to workgroup members.
	2.3 Undertake activities in a manner which promotes cooperation and good relationships.
	2.4 Take into account time and resource constraints in fulfilling work requirements of self and others.
	2.5 Encourage, acknowledge and act upon constructive **feedback** provided by others in the group.
3. Contribute to workgroup activities	3.1 Provide **support** to each other to ensure workgroup goals are met.
	3.2 Contribute constructively to workgroup goals and tasks.
	3.3 Share relevant **information** with workgroup members to ensure designated goals are met.
	3.4 Identify and plan strategies and opportunities for improvement of workgroup.

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4.	Deal with issues, problems and conflicts	4.1	Respect differences in personal values and beliefs and note their importance in the development of relationships.
		4.2	Identify and respond to linguistic and cultural differences in **communication** styles.
		4.3	Identify issues, problems and conflict encountered in the workplace.
		4.4	Obtain assistance from workgroup members when issues, problems and conflict arise.
		4.5	Suggest possible ways to deal with issues, problems and conflict and refer to relevant person.

RANGE STATEMENT

All range statements must be assessed:

1. **Information:**

   - Schedules
   - Lighting plan
   - Patch up list
   - Problems encountered
   - Suggestions for improvement

2. **Communication:**

   - Written
   - Verbal
   - Signage

3. **Feedback:**

   - Designer comments on the spot
   - Audience
   - Programming feedback

4. **Support:**

   - Physical
   - Moral

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

1. What information is linked to own job role that needs to be shared with colleagues.

2. Why sharing information with colleagues is important.

3. What are the best methods for sharing information.

4. Why good working relationships are important.

5. How to promote cooperation and good relationships.

6. What problems can be experienced when developing and maintaining good working relationships with colleagues and what are the possible solutions.

7. What relevant legislation exists from all levels of government that may affect aspects of business operations, such as anti-discrimination, ethical principles, codes of practice, privacy laws and occupational safety and health (OSH).

8. What are your responsibilities and duties as well as the workgroup's responsibilities and duties.

9. What are the time and resource constraints to take into consideration when fulfilling work requirements.

10. How and when to encourage, acknowledge and act upon feedback.

11. How and when to provide support to team members.

12. How to contribute to workgroup goals.

13. What are personal values and beliefs and why they should be respected.

14. What are linguistic and cultural differences.

15. How to identify and respond to issues, problems and conflicts.

16. How to communicate effectively in the work environment.

17. Why communication is essential.

18. What is constructive (positive) and destructive (negative) feedback.

19. Why feedback is necessary.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates must prove that they can carry out **all** the elements, meeting **all** of the performance criteria, range and underpinning knowledge **on more than one occasion**. This evidence must come from a real working environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence of competence may be obtained through a variety of methods including:

- Observation
- Written/oral questioning
- Written evidence
- Witness testimony
- Professional discussion

(3) Context of Assessment

This unit may be assessed on the job, off the job, or a combination of both. Where assessment occurs off the job, that is, the candidate is not in productive work then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation **should not be used** except in exceptional circumstances where natural work evidence is unlikely to occur.

U87803   **Plan and prepare to work in the lighting sector**

Unit Descriptor:	This unit describes the knowledge, skills and attitudes required to plan, prepare and work safely in the lighting sector. Basic maintenance and housekeeping of the work area within the scope of the candidate are also included.

ELEMENT	**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

1.	Plan to work	1.1	Plan work in accordance with relevant legislation, codes of practice and organizational procedures.
		1.2	Review **documents** with relevant personnel.
		1.3	Carry out pre-work checks and assessment of work area before starting to work.
		1.4	Review safe work methods before undertaking any activity.
		1.5	Identify correct **personal protective equipment** for the job according to organizational requirements.
2.	Prepare to work	2.1	Identify **hazards** in the work area.
		2.2	Take appropriate actions to correct **hazards** within the scope of responsibility.
		2.3	Report any **hazards** that cannot be corrected to appropriate personnel.
		2.4	Test **equipment** before use.
3.	Follow safe work practices	3.1	Follow work procedures and instructions for ensuring safety when conducting work.
		3.2	Observe **duty of care** requirements at all times.
		3.3	Adhere to occupational safety and health plans as required according to organizational health and safety.

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3.4   Use **equipment** correctly when working according to manufacturer's and organizational requirements.

3.5   Adhere to **ergonomic principles** as stated.

3.6   Use tools, **equipment** and materials correctly at all times according to manufacturer's and organizational requirements.

3.7   Follow organizational procedures for dealing with **emergencies** within own scope of responsibility at all times.

3.8   Report incidents, injuries and **hazards** which occur whilst working to designated personnel.

3.9   Keep work area clean and orderly during work process.

RANGE STATEMENT

All range statements must be assessed:

1. **Documents:**

   - Lighting plan
   - Other e.g. safety and health, venue, manuals etc.

2. **Personal protective equipment:**

   - Clothing
   - Footwear
   - Harness
   - Eye protection

3. **Hazards:**

   - Biological
   - Environmental
   - Chemical
   - Physical
   - Psychological
   - Ergonomical

4. **Equipment:**

   - Fire extinguishers
   - Signs e.g. men working ahead, caution, electrical hazards etc.
   - Cable mats
   - Cameras
   - Test equipment
   - Automated lighting equipment
   - Manual lighting equipment

5. **Duty of care:**

   - Legal responsibility to do everything reasonably practicable to protect others from harm.
   - Own responsibility to comply with safe work practices, including activities which require licenses, tickets or certificates of competency.

6. **Ergonomic principles:**

   - Manual handling
   - Workstation design

7. **Emergencies:**

    - Evacuations
    - Explosions, fires, bomb threats
    - Natural disasters
    - Accidents and other serious injury events
    - Security emergencies

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

1.   How to interpret relevant legislation, codes and organizational procedures when planning for work.

2.   How to communicate work plans with relevant personnel.

3.   How to identify hazards when making pre-work checks and work assessments and what steps to take to control those that are within own area of responsibility.

4.   What personal protective equipment is needed for the job and how to use and test them correctly.

5.   What are common workplace hazards and the safety measures to deal with these hazards.

6.   What is the duty of care, within the scope of own responsibility.

7.   What are the different ergonomic techniques and how they should be used.

8.   What are the organizational and manufacturer's requirements for storing, maintaining and using tools and equipment.

9.   What are the organization's safety and emergency plans and procedures to be followed.

10.   What is the importance of keeping your work area clean and how this impacts on the efficiency of your work.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates must prove that they can carry out **all** the elements, meeting **all** of the performance criteria, range and underpinning knowledge **on more than one occasion**. This evidence must come from a real working environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence of competence may be obtained through a variety of methods including:

- Observation
- Written/oral questioning
- Written evidence
- Witness testimony
- Professional discussion

(3) Context of Assessment

This unit may be assessed on the job, off the job, or a combination of both. Where assessment occurs off the job, that is, the candidate is not in productive work then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation **should not be used**, except in exceptional circumstances where natural work evidence is unlikely to occur.

U55902   Assist emergency personnel

Unit Descriptor:	This unit describes the knowledge, skills and attitudes required to assist emergency personnel safely and effectively during accidents and other emergencies.

ELEMENT	PERFORMANCE CRITERIA

To be competent you must achieve the following:

1. Deal with injuries and signs of illnesses	1.1 Protect **casualty** quickly and safely.
	1.2 Protect other persons involved from further risk or **injury**.
	1.3 Summon to the scene the appropriately **qualified assistance**.
	1.4 Provide reassurance and comfort to all persons involved in an appropriate and sensitive manner.
	1.5 Give all required information to necessary personnel in a clear, accurate and timely manner.
	1.6 Follow organizational procedures and maintain calm throughout **emergency**.
2. Follow emergency procedures	2.1 Inform **persons involved** about the correct emergency procedures.
	2.2 Follow emergency procedures in a safe, correct and calm manner.
	2.3 Maintain the safety of persons involved throughout the emergency.
3. Report the emergency	3.1 Prepare clear and accurate **reports** about the emergency according to organizational procedures and legislation.
	3.2 Complete and submit all documents to relevant personnel in an accurate, legible and timely manner.

RANGE STATEMENT

All range statements must be assessed:

1. Casualty:

- Adults
- Children and young people
- Persons with particular needs

2. Injury:

- Minor; which can be treated on-site
- Major; requiring outside medical attention

3. Qualified assistance:

- On-site first aider
- Emergency services

4. Emergency:

- Fires
- Security incidents
- Missing persons
- Accidents / incidents

5. Persons involved:

- Adults
- Children
- Persons with particular needs

6. Reports:

- Verbal
- Written

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

1. What are the organizational policies and procedures for dealing with emergencies.

2. How to follow emergency procedures.

3. What are the common types of injuries and illnesses which may occur in the particular work area during an emergency and why these need to be reported to relevant personnel.

4. How to identify and deal with injuries and illnesses before qualified assistance arrives.

5. Who is the on-site First Aider and how they should be contacted.

6. How to decide whether to contact the on-site First Aider or immediately call the emergency services.

7. How to call the emergency services and what information to communicate to them immediately and why.

8. How to provide clear and accurate reports of the emergency situation and casualties.

9. Why it is important to protect the casualty and others from further harm and how to do so.

10. Why it is important to provide comfort and reassurance to the casualty and others involved and how to do so for the range of different casualties, injuries and illnesses.

11. What are the procedures for dealing with major and minor injury and illnesses.

12. What types of difficulties may happen during emergency procedures and why these need to be reported to relevant personnel.

13. How to communicate effectively with the casualty and other persons that may be involved.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates must prove that they can carry out **all** the elements, meeting **all** of the performance criteria, range and underpinning knowledge **on more than one occasion**. This evidence must come from a real working environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence of competence may be obtained through a variety of methods including:

- Observation
- Written/oral questioning
- Written evidence
- Witness testimony
- Professional discussion

(3) Context of Assessment

This unit may be assessed on the job, off the job, or a combination of both. Where assessment occurs off the job, that is, the candidate is not in productive work then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation **should not be used** in exceptional circumstances where natural work evidence is unlikely to occur.

U87903   Carry out work orders

Unit Descriptor:

> This unit describes the knowledge, skills and attitudes required to carry out work orders.

ELEMENT	PERFORMANCE CRITERIA

To be competent you must achieve the following:

1.	Receive equipment	1.1	Receive the necessary **documents** for the job from designated personnel.
		1.2	Pull and check-off all required **equipment** on **equipmen**t list.
		1.3	Label **equipment** according to the lighting plan.
		1.4	Load and transport **equipment** to the venue safely.
		1.5	Offload **equipment** at the venue.
2.	Test equipment	2.1	Inspect **equipment** after transportation to ensure no damage has occurred.
		2.2	Test **equipment** to ensure it is in good working condition.
		2.3	Follow the necessary safety guidelines at the venue.
3.	Carry out work	3.1	Read and interpret the lighting plan.
		3.2	Inspect and cover all areas of the venue as specified by lighting plan.
		3.3	Install and set up **equipment** in the designated areas of the venue.
		3.4	Program and save, one after the other, the desired effects indicated in lighting plan.
		3.5	Follow and play back lighting plan to recreate the **vision** of designer and client.

3.6   Alter lighting plan accordingly, if **problems** are encountered.

4.   Finish work

4.1   Shut down, remove and disassemble all **equipment** at the venue where necessary.

4.2   Check off **equipment** against **equipment** list.

4.3   Pack up **equipment** and return to storage.

RANGE STATEMENT

All range statements must be assessed:

1. **Documents:**

   - Lighting plan
   - Preparation sheet i.e. equipment listing

2. **Equipment:**

   - Lighting equipment
   - Communication equipment
   - Other e.g. props

3. **Vision:**

   - Aesthetics
   - Creativity
   - Quality
   - Type of production

4. **Problems:**

   - Personnel e.g. tardiness
   - Electrical e.g. power issues
   - Equipment related
   - Technical

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UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

1.   What are the technical principles and technologies involved in lighting operations.

2.   What is the general scope and potential of lighting operations within different live production contexts, e.g. theatre, music, corporate.

3.   What is the relationship between lighting operations and other technical and performance area, including audio, vision systems and performance.

4.   What is a patch up sheet.

5.   What is a lighting plan.

6.   What is work planning and performance evaluation.

7.   What are the key aspects of the overall technical and creative production process for different types of live production.

8.   What are the leadership and management roles and responsibilities within the area of technical production.

9.   What are typical work organization and work planning methods within the area of technical production.

10. What are the different types of equipment and all the accessories.

11. What are problem-solving and decision-making processes and techniques and their application to legal technical production in the workplace; in particular contingency management.

12. What are the legal and occupational health and safety issues that affect technical production in relation to short term work organization.

13. What are effective communication techniques in relation to the provision of feedback and support to colleagues.

14. How to plan and organize activities.

15. How to use a lighting plan.

16. How to read and interpret a lighting plan.

17. How to solve problems.

18. How to communicate clearly and precisely.

19.   How to receive equipment.

20.   How to test equipment.

21.   How to use, handle and set up equipment according to lighting plan.

22.   How to transport and store equipment before use and after use.

23.   How to access and evaluate information.

24.   How to work safely.

25.   How to monitor work activities.

26.   How to work as a team and on your own as well.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates must prove that they can carry out **all** the elements, meeting **all** of the performance criteria, range and underpinning knowledge **on more than one occasion**. This evidence must come from a real working environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence of competence may be obtained through a variety of methods including:

- Observation
- Written/oral questioning
- Written evidence
- Witness testimony
- Professional discussion

(3) Context of Assessment

This unit may be assessed on the job, off the job, or a combination of both. Where assessment occurs off the job, that is, the candidate is not in productive work then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation **should not be used** except in exceptional circumstances where natural work evidence is unlikely to occur.

U88003   **Diagnose, repair and maintain equipment**

Unit Descriptor:	This unit describes the knowledge, skills and attitudes required to diagnose, repair and maintain lighting equipment.

ELEMENT	**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

1.	Conduct diagnostics on equipment	1.1	Read relevant **equipment** user manual before conducting the diagnostic check.
		1.2	Conduct diagnostic checks on **equipment** and report any faults or variances from manufacturer's operational standards.
		1.3	Tag faulty **equipment** appropriately according to organizational procedures.
		1.4	Complete required documentation and present to designated personnel.
		1.5	Isolate and remove tagged, faulty **equipment** quickly and safely.
2.	Repair equipment	2.1	Assess tagged, faulty **equipment** within the specified timeframe.
		2.2	Unplug, disconnect and disassemble tagged faulty **equipment**, in a safe manner.
		2.3	Isolate fault(s) of tagged faulty **equipment** using specific fault detection procedures and specific fault detection equipment.
		2.4	Determine the **type of repairs** to be done to tagged faulty **equipment**.
		2.5	Conduct **minor repairs** to tagged faulty **equipment.**
		2.6	Refer **major repairs** to designated personnel.
		2.7	Complete the required documentation and provide copies to relevant personnel.

	2.8	Restore **equipment** into usage or place in specified storage area.
3. Maintain equipment	3.1	Clean **equipment** and maintain as outlined in enterprise requirements and maintenance instructions.
	3.2	Conduct safety checks on **equipment.**
	3.3	Replace any parts or accessories as deemed fit.
	3.4	Refer to technical specialist for complex maintenance activities, if necessary.
	3.5	Ensure **equipment** is ready and available for use.
	3.6	Operate, shut down, and handle **equipment** to ensure it is functioning properly.
	3.7	Disassemble and store under specified storage conditions to enhance the life of the **equipment**.
	3.8	Complete required documentation and provide copies to relevant personnel.

RANGE STATEMENT

All range statements must be assessed:

1. **Equipment:**

   - Lighting equipment
   - Test equipment

2. **Types of repairs:**

   - Minor
   - Major

3. **Minor repairs:**

   - Faulty globes in lanterns, work lights, emergency lights, other areas of venue
   - Defective colour
   - Blown fuses in dimmers
   - Faulty control desk faders and push button switches
   - Faulty control desk cards or modules

4. **Major repairs:**

   - Full disassembly of equipment by lighting personnel
   - Full assessment of equipment by specialist

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

1. How to test for and diagnose faults in equipment.

2. How to undertake minor repairs on faulty equipment.

3. How to conduct general maintenance of equipment.

4. How to reassemble equipment under repair and realign as required.

5. How to tag or label equipment according to its repair status.

6. How to use safe electrical work practices.

7. How to use appropriate tools for detecting and repairing faults.

8. How to demonstrate effective equipment storage techniques to enhance overall maintenance.

9. How to self-manage and plan work under pressure and meet deadlines.

10. How to interpret service documentation and manuals e.g. specifications and manufacturer's instructions.

11. How to complete fault and maintenance reports.

12. How to work as a team.

13. How to liaise with technical specialists.

14. How to provide reports to relevant personnel on equipment status.

15. What are the typical maintenance needs and schedules for range of equipment in use.

16. What are cleaning agents, equipment and techniques.

17. What are the techniques and processes for detecting faults for specific equipment.

18. What are the common faults and associated repair procedures for the range of equipment in use.

19. What are spare parts and sub-assemblies used for in either sound, lighting or vision equipment repair and maintenance.

20.   What are the effects of not operating and maintaining equipment in optimal conditions e.g. the effect of bad ventilation on equipment.

21.   What is the meaning and use of electrical measurements, including voltage, current resistance, insulation and power source (AC/DC).

22.   What are the legal and licensing issues that impact on the repair and maintenance of equipment, including the role of restricted electrical license, testing and tagging certification and limitations on the type of work that can be undertaken without a license.

23.   What are the sources of products, supplies and equipment.

24.   What is the impact of technology on production equipment.

25.   What is the duty of care to colleagues and general public.

26   What are the OHS and public safety legislation and regulations as they apply to technical maintenance activities.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

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(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence of competence may be obtained through a variety of methods including:

- Observation
- Written/oral questioning
- Written evidence
- Witness testimony
- Professional discussion

(3) Context of Assessment

This unit may be assessed on the job, off the job, or a combination of both. Where assessment occurs off the job, that is, the candidate is not in productive work then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

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Simulation **should not be used**, except in exceptional circumstances where natural work evidence is unlikely to occur.

Level 2   Glossary of Terms

Assessment Methods

The methods which can be used to determine competence in performance and underpinning knowledge.

Assessors

The Assessor's role is to determine whether evidence presented by a candidate for assessment within the programme meets the required standard of competence in the relevant unit or element. The assessor needs to be competent to assess to national standards in the area under assessment.

Approved Centre

Organization/centre approved by the TVET Council to offer full National Vocational Qualifications (NVQs).

Case Studies

In situations where it is difficult for workplace assessment to take place, case studies can offer the candidate an opportunity to demonstrate potential competence.

A case study is a description of an actual or imaginary situation presented in some detail. The way the case study is presented will vary depending upon the qualification, but the most usual methods are written, taped or filmed.

The main advantage of a case study is the amount of evidence of underpinning knowledge it can generate and the specific nature of the evidence produced.

Competence

In the context of vocational qualifications, competence means the ability to carry out prescribed activities to nationally predetermined standards in an occupation. The definition embraces cognitive, practical and behavioural skills, underpinning knowledge and understanding and the ability to react appropriately in contingency situations.

Element

An element is a description of an action, behaviour or outcome which a person should be able to demonstrate.

Explanation of NVQ Levels

NVQs cover five (5) levels of competence, from entry level (Level 1) through to senior management (Level 5).

Level 1 – Entry Level

Recognizes competence in a range of varied work activities performed in a variety of contexts. Most work

activities are simple and routine. Collaboration with others through work groups or teams may often be a requirement. Substantial supervision is required especially during the early months evolving into more autonomy with time.

Level 2 – Skilled Occupations

Recognizes competence in a broad range of diverse work activities performed in a variety of contexts. Some of these may be complex and non-routine and involve some responsibility and autonomy. Collaboration with others through work groups or teams and the guidance of others may be required.

Level 3 – Technician and Supervisory Occupations

Recognizes competence in a broad range of complex, technical or professional work activities performed in a wide variety of contexts, with a substantial degree of personal responsibility and autonomy. Responsibility for the work of others and the allocation of resources are often a requirement. The individual is capable of self-directed application, exhibits problem solving, planning, designing and supervisory capabilities.

Level 4 – Technical Specialist and Middle Management Occupations

Recognizes competence involving the application of a range of fundamental principles and complex techniques across a wide and unpredictable variety of contexts. Requires very substantial personal autonomy and often significant responsibility for the work of others, the allocation of resources, as well as personal accountability for analysis, diagnosis, design, planning, execution and evaluation.

Level 5 – Chartered, Professional and Senior Management Occupations

Recognizes the ability to exercise personal professional responsibility for the design, development or improvement of a product, process, system or service. Recognizes technical and management competencies at the highest level and includes those who have occupied positions of the highest responsibility and made outstanding contributions to the promotion and practice of their occupation.

External Verifier

The External Verifier is trained and appointed by the TVET Council and is competent to approve and ensure an approved centre's quality of provision.

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Internal Verifier

The Internal Verifier acts in a supporting role for Assessors to ensure the consistent quality of assessment and competence. They need to be competent to assess to national standards in the area under assessment.

NVQ

National Vocational Qualifications (NVQs) are work-based qualifications that assess an individual's competence in a work situation and certify that the individual can perform the work role to the standards expected in employment.

NVQs are based on national occupational standards of competence drawn up by standards-setting bodies known as Industry Lead Bodies. The standards describe the level and breadth of performance that is expected of persons working in the industry or sector which the NVQ covers.

NVQ Coordinator

Within each approved centre offering NVQs, there is a centre contact who has overall responsibility for the operation and administration of the NVQ system.

Observation

Observation of the candidate carrying out his/her job in the workplace is the assessment method recommended in the vast majority of units and elements. Observation of staff carrying out their duties is something that most supervisors and managers do every day.

Performance Criteria

Performance criteria indicate the requirements for the successful achievement of an element. They are descriptions of what the Assessor would expect to see in competent performance.

Product of Work

This could be items produced during the normal course of work, which can be used for evidence purposes such as reports, menus, promotional literature, training plans, etc.

Questioning

Questioning is one of the most appropriate ways to collect evidence to assess a candidate's underpinning knowledge and understanding.

Questioning can also be used to assess a candidate in those areas of work listed in the range which cannot be assessed by observation. Guidance on when this assessment method can be used is given in the assessment guidance of each individual element.

As an assessment method, questioning ensures that the Assessor has all of the evidence about a candidate's performance. It also allows the Assessor to clarify situations.

Range Statements

The range puts the element of competence into context. A range statement describes the range of situations to which an element and its performance criteria should be applied.

Range statements are prescriptive therefore, each category must be assessed.

Role Play

Role plays are simulations where the candidate is asked to act out a situation in the way he/she considers 'real' people would behave. By using role-play situations to assess a candidate, assessors are able to collect evidence and make a judgement about how the candidate is most likely to perform. This may be necessary if the range specified includes a situation in which the candidate is unlikely to find himself/herself in the normal course of his/her work, or where the candidate needs to develop competence, before being judged competent, for example, in a disciplinary situation.

Simulations

Where possible, assessment should always be carried out by observing **natural performance** in the workplace. **Simulated performance**, however, can be used where specified to collect evidence about an aspect of a candidate's work which occurs infrequently or is potentially hazardous; for example, dealing with fires.

By designing the simulated situation, briefing the candidate and observing his/her performance, the Assessor will be able to elicit evidence which will help him/her judge how a candidate is **most likely** to perform in real life.

Supplementary Evidence

Supplementary evidence can be used to confirm and support performance evidence. Types of supplementary evidence include witness testimonies, reports, journals or diaries, records of activities, personal statements, simulation etc. (see note in glossary).

Underpinning Knowledge

Underpinning knowledge indicates what knowledge is **essential** for a candidate to possess in order to successfully achieve an element and prove total competence.

Level	
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Units

A unit of competence describes one or more than one activity which forms a significant part of a candidate's work. Units are accredited separately but, in combination, can make up a vocational qualification. There are three categories of units:

Mandatory Units: These are core to a qualification and must be completed.

Optional Units: Candidates must choose the required number of individual units, specified in the qualification structure, to achieve the qualification.

Work-based Projects

Work-based projects are a useful way for the Assessor to collect evidence to support any decision made about a candidate's performance. They are particularly appropriate in determining the level of a candidate's underpinning knowledge and understanding where it may be insufficient to rely only on questioning or observation.

A project often involves the identification of a solution to a specific problem identified by the Assessor and/or the candidate (such as looking at ways to redress a recent drop in sales), or may be a structured programme of work built around a central situation or idea (such as the introduction of a new job rostering process).