

Competency Standards for Caribbean Vocational Qualifications (CVQ)

CCCILS3001 CVQ Level 3 – Live Sound Engineering

Unit Code	Unit Title	Mandatory/ Elective
CI00022	Provide quality service to customers	Mandatory
CI00030	Repair and maintain production equipment	Mandatory
CI00031	Specify sound systems	Mandatory
CI00032	Organise and monitor load in/load out	Mandatory
CI00033	Install and connect electrical wiring	Mandatory
CI00034	Move and set up instruments and equipment	Mandatory
CI00035	Select and manage microphone and other audio input sources	Mandatory
CI00036	Set up and operate stage monitor systems	Mandatory
CI00037	Provide sound reinforcement	Mandatory
CI00038	Mix live audio	Mandatory
CI00027	Set up and disassemble audio equipment	Mandatory
CI00016	Follow health, safety and security procedures in the creative industries	Mandatory
CI00017	Communicate in the workplace	Mandatory
CI00018	Work with others	Mandatory
CI00039	Perform emergency procedures in the workplace	Mandatory
CI00015	Follow principles of Occupational Safety and Health (OSH) in the work environment	Mandatory
CI00040	Follow principles of environmental protection in the work environment	Mandatory
CI00041	Manage the stage production	Elective
CI00042	Perform rigging	Elective
CI00043	Communicate using a two way system	Elective
CI00044	Set up and operate audio system control networks	Elective
CI00045	Record sound on location	Elective
CI00046	Craft personal entrepreneurial strategy	Elective

To achieve this qualification all mandatory competency standards and a minimum of any two (2) electives must be achieved.

CI00022: Provide quality service to customers
Unit Descriptor:

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

ELEMENTS
PERFORMANCE CRITERIA

Candidates must be able to:

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| 1 | Identify customer needs | 1.1 Use interpersonal skills appropriately to ensure that customers' needs are accurately identified. |
| | | 1.2 Discuss customers' requests in an articulate, easy to understand manner and respond to promptly within organization's policy and procedures. |
| | | 1.3 Assess customers' needs for urgency so that priorities for service delivery can be identified. |
| | | 1.4 Provide customers with information about available options for meeting their needs and assist in identifying their preferred option. |
| | | 1.5 Promote organization's products and services to meet customers' requests in accordance with organization's policy and procedures |
| | | 1.6 Complete documentation in accordance with organization's policies and procedures. |
| | | 1.7 Identify personal limitations in addressing customers' needs where appropriate, and seek assistance from designated person. |
| 2 | Communicate with the customer | 2.1 Communicate with customers and colleagues in a polite, professional and friendly manner according to established procedures |
| | | 2.2 Use language and tone appropriate to a given situation in both written and verbal communication |
| | | 2.3 Use appropriate non-verbal communication in all situations according to workplace procedures |

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| | 2.4 | Observe non-verbal communication of colleagues and customers and take into consideration the communication process. | |
| | 2.5 | Communicate with others showing sensitivity to cultural and social differences according to established procedures. | |
| | 2.6 | Facilitate effective two-way communication using active listening and questioning techniques according to workplace procedures | |
| | 2.7 | Identify potential and existing conflicts and seek solutions in conjunction with parties involved in accordance with established procedures | |
| 3 | Establish a working relationship with the customer | 3.1 | Confirm customer identity and details with customer records according to workplace procedures. |
| | | 3.2 | Establish a rapport using active listening and empathy techniques |
| 4 | Maintain personal presentation standards | 4.1 | Observe appropriate dress, grooming and behaviour in the workplace according to organization's policies and procedures |
| | | 4.2 | Maintain personal presentation taking into account workplace environment and impact on different kinds of customer in accordance with workplace procedures |
| 5 | Deliver quality service to customers | 5.1 | Provide prompt customer service to meet identified needs in accordance with legislative and organisational requirements. |
| | | 5.2 | Establish rapport with customers to enable high-quality service delivery in accordance with workplace procedures |
| | | 5.3 | Meet all reasonable needs and requests of customers within organisational guidelines and timeframes. |
| | | 5.4 | Provide service to customers respectfully and with sensitivity where cultural differences and special needs exist in accordance with organization's policies and procedures |
| | | 5.5 | Handle customers' complaints sensitively and courteously in accordance with organisational requirements. |
| | | 5.6 | Identify opportunities to enhance the quality of service and |

products whenever possible.

RANGE STATEMENT

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

Customers include:

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

Deliver quality service include:

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

Active listening include:

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

Personal presentation include:

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

Interpersonal skills include:

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

Legislative requirements include:

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

Grooming include:

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

Customer needs include:

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

Workplace procedures include:

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

- returning organisation's products

Behaviour which contributes to a safe work environment include:

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

UNDERPINNING KNOWLEDGE & SKILLS

Candidates must know:

1. what are the strategies for excellent customer service
2. what are the workplace policies and procedures for customer service including handling customer complaints
3. what are customer feedback mechanisms
4. what is the organization's business structure, products and services
5. what are the organization's policies, procedures and guidelines
6. what are the organization's business operations and processes
7. how to access and use workplace information
8. how to identify customer needs
9. how to apply problem solving skills e.g. deal with customer enquiries or complaints
10. how to relate to people from a range of social, cultural and ethnic backgrounds as well as physical and mental abilities
11. how to read and interpret information
12. how to articulate organization's products and services
13. how to apply customer service skills to satisfy customer requirements and satisfaction
14. how to employ questioning and active listening skills to clarify information

EVIDENCE GUIDE

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

(1) Critical Aspects of Evidence

Evidence should include a demonstrated ability to:

- apply knowledge of organization's products and service
- apply knowledge of and adherence to organization's standards, policies and procedures
- use appropriate language, tone and phrases in dealing with customers and giving due consideration for special needs and cultural and social differences
- apply clear and concise communication with the customer including use of active listening and questioning techniques
- process inquiry in a prompt and efficient manner

- provide various options to the customer when more than one option can satisfy customer need
- deliver service in accordance with organization's policy and procedures
- project a professional image in representing the organization

(2) Method of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. 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.

(3) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both on and off the job. 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 an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

CI00030: Repair and maintain production equipment
Unit Descriptor:

This unit describes the performance outcomes, skills and knowledge required to repair and maintain production equipment used in the creative industries.

ELEMENTS		PERFORMANCE CRITERIA	
Candidates must be able to:			
1	Undertake routine maintenance of equipment	1.1	Clean and maintain equipment, cables and accessories according to organisational procedures
		1.2	Conduct safety checks on equipment according to manufacturer instructions and OSH guidelines
		1.3	Check and replace spares and consumables and ensure production equipment is ready and available to productions at specified locations
		1.4	Complete required documentation to ensure accurate records of checked and maintained items, and provide copies to relevant personnel
2	Attend to the repair of production equipment	2.1	Recognise faults and safely shut down equipment if necessary, following manufacturer's instructions and organisational procedures
		2.2	Isolate fault to specific equipment or parts of equipment using fault detection procedures, and determine nature of repair requirements
		2.3	Tag faulty production equipment according to organisational procedures
		2.4	Make minor repairs to faulty equipment according to safety requirements and manufacturer instructions and within level of own responsibility
		2.5	Refer complex repairs to technical specialists or licensed personnel in consultation with relevant personnel
		2.6	Instruct technical specialists to pilot the repair from a remote location, where necessary
		2.7	Discuss faults and repair needs with technical specialists, demonstrating accurate use of terminology.
3	Review and document	3.1	Undertake simple modifications to equipment, ensuring

 maintenance activity

current safety measures and deadlines are met

- 3.2 Complete documentation according to organisational procedures and distribute to relevant personnel as required
- 3.3 Review repair and maintenance activities to ensure compliance with legislation and organisational procedures

RANGE STATEMENT

Maintenance of equipment include:

- sound equipment including:
 - cleaning and dusting equipment
 - cleaning microphones and replacing inserts
 - replacing batteries
 - cleaning heads on recorders and playback units
 - checking continuity of cables
 - accurate storage of equipment
 - aligning and adjusting recording and playback units
 - cleaning recording playback medium
 - making back-up copies of recordings

- Maintaining control desks including:
 - vision systems including:
 - dusting and cleaning exteriors and interiors of all types of vision systems
 - cleaning lenses
 - cleaning microphones and replacing inserts
 - cleaning heads on recorders and playback units
 - checking cords and cables are in good condition with insulation intact
 - checking locking and clamping mechanisms are in good order
 - testing and replacing batteries
 - aligning and adjusting playback equipment
 - checking and replacing globes

Accessories include:

- sound accessories e.g.
 - microphone leads
 - windsocks
 - brackets and stands
 - connectors
 - fuses
 - spare faders
 - headphones

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- checking control units, focus and slide trays
 - checking and cleaning screens
 - replacing consumables or readily exchangeable parts, e.g. globes, batteries, gels, filters, screens and lenses
 - checking and storing audiovisual materials and copying materials
 - preparing back-up copies of materials

Organisational procedures include:

- documenting repair and maintenance activities
- providing back-up materials
- updating contact lists for repair specialists and suppliers
- writing and attaching labels to faulty equipment

Spares and consumables include:

- batteries
- cables
- connectors
- disks, e.g. DVD and CD
- filters
- fuses
- gels
- globes
- head cleaners
- lenses
- pegs and screws
- screens
- soldering iron and solder
- springs
- tapes
- test tapes
- testing equipment
- voltmeter

Equipment include:

- sound, including:
 - microphones of all types
 - amplifiers
 - speakers
 - mixing desk
 - tape machines
 - headphones and headsets
 - digital recorders
 - CD and DVD players
 - sequencer and sampler
 - effects rack
- test equipment, e.g. voltmeters and diagnostic tools
- two-way communication devices

Productions include:

- animations
- backstage monitoring
- documentaries
- events and performances
- feature films
- festivals
- front of house displays
- interactive media productions
- live theatre
- outside broadcasts
- short films
- sporting events

Locations include:

- attractions and theme parks
- auditoriums and classrooms
- clubs and hotels
- conference venues
- film locations
- outdoor venues
- outside broadcasts
- public spaces and buildings
- studios
- theatres

Documentation include:

- back-up materials
- equipment diagrams and design specifications
- fault reports
- inventories
- maintenance schedules
- manufacturer instructions
- operating manuals
- supplier information

Relevant personnel include:

- camera crews
- clients
- designers
- editors
- graphic artists
- heads of departments
- lighting directors
- photographers
- sound technicians and engineers
- staging or lighting crew
- suppliers
- technical producers and directors
- technical specialists
- vision operators

Minor repairs include:

- for camera and sound equipment:
 - replacing or tagging items that do not require electrical or electronic skills
 - making up leads
 - replacing connectors
 - replacing parts of microphones and stands
 - replacing fuses and faders

Licensed personnel include:

- accredited equipment specialists
- qualified electricians
- rigger

UNDERPINNING KNOWLEDGE AND SKILLS

Candidates must know:

1. what are the technical features of major types of equipment
2. what are the typical maintenance needs and schedules for the range of equipment in use
3. what are the common faults and associated repair procedures for the range of equipment in use
4. how to test for and diagnose faults in equipment
5. how to use appropriate tools for detecting and repairing faults
6. how to undertake minor repairs on faulty equipment
7. how to tag or label equipment according to its repair status
8. how to re-assemble equipment under repair and re-align as required
9. what are the effects of not operating and maintaining equipment in optimal conditions, e.g. effect of bad ventilation on equipment
10. how to apply an understanding of electrical terminology and their measurements, including voltage, current resistance, insulation and power sources (AC/DC)

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11. how to conduct general maintenance of equipment
 12. how to use safe electrical work practices
 13. how to demonstrate good equipment storage techniques to enhance overall maintenance
 14. how to use communication skills (work effectively as a team member, liaise with technical specialists, provide reports to relevant personnel on equipment status)
 15. how to apply understanding of self management and planning skills sufficient to work under pressure and meet deadlines
 16. what are the OSH and public safety legislation and regulations as they apply to technical maintenance activities

EVIDENCE GUIDE

(1) Critical Aspects of Evidence

Evidence should include a demonstrated ability to:

- undertake routine repairs and maintenance on equipment used in a specified production area
- apply logical fault detection procedures
- interpret service and technical manuals
- recognize faults and apply OHS principles and issues in relation to the repair and maintenance of equipment
- perform all tasks according to established procedures

(2) Method of Assessment

Assessors should gather a range of evidence, over a period of time, which is valid, sufficient, current and authentic. Evidence should be gathered through a variety of ways including direct observation, inspection of items repaired by the candidate, review of repair report (prepared by the candidate), review of portfolios of evidence, third party workplace reports and written or oral questioning. 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, manufacturer's specifications, codes, standards, manuals and reference materials.

(3) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both on and off the job. 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 an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

CI00031: Specify sound systems

Unit Descriptor:

This unit describes the skills and knowledge required to interpret production requirements, research and identify sound equipment components, determine the set up of sound systems, prepare sound plans and direct implementation to fulfil the requirements for sound production.

ELEMENTS		PERFORMANCE CRITERIA	
Candidates must be able to:			
1	Establish brief for sound system	1.1	Liaise with the appropriate personnel to ascertain the requirements of the project in accordance with workplace procedure
		1.2	Undertake necessary site visit(s) to determine best option to meet production requirements according to company procedure
		1.3	Identify available budget and other resources in determining the scope of the production
		1.4	Identify additional expertise necessary for the project as required
2	Produce sound plan	2.1	Produce sound plan in accordance with production requirements
		2.2	Verify that stage plots, technical riders, sound sources, block diagrams and layout are drawn and noted as required according to industry approved procedure
		2.3	Check that a comprehensive equipment list is prepared in accordance with workplace procedures
		2.4	Identify power requirements according to established procedures
3	Liaise with others to implement sound plan	3.1	Ensure that all parties meet their obligations, adhere to quality standards and work within project requirements
		3.2	Monitor all work to ensure that it is completed to specifications and any changes required are negotiated, agreed with the appropriate personnel and implemented

- 3.4 Verify that operation is plotted to meet performance requirements
- 3.5 Check that appropriate documentation is prepared and maintained as required

RANGE STATEMENT

The range of variables explains the contexts within which the performance and knowledge requirements of the standard may be assessed. Competencies to be demonstrated must be associated with performance of duties and use of specialist skills according to related disciplines.

Equipment include:

- microphones
- amplifiers
- speakers
- mixing consoles
- equalizers
- limiters
- compressors
- effects rack
- drive rack
- tape machines
- turntables
- CD player/burner
- sequence sampler
- computer DAT
- mini disc
- hard disc recorder
- DVD
- generators

Sound sources include:

- music produced acoustically or electronically
- foley
- atmosphere

Production requirements include:

- artistic
- technical
- financial
- timelines/deadlines
- production schedules
- production and venue requirements
- organisational policies and procedures
- resources
- organisational and legislative occupational safety and health requirements

Relevant personnel include:

- producers
- directors
- artistes
- sound designers
- performers
- other technical staff
- event managers

Written materials include:

Characteristics of sound sources include:

- technical riders
- stage plots
- event written programmes
- SPL level (sound pressure)
- tonal quality
- perspective
- acoustic
- decibel level
- intelligibility
- position/image
- mono
- stereo

Factors for consideration in audio system design include:

- legal issues associated with sound re-enforcement/noise pollution
- location of audience
- performer requirements
- positioning of stage
- presence of trees or other site features which may affect audio operation
- relationship of equipment location to audience
- site dimensions
- time of year/forecasted weather patterns

Additional infrastructure and equipment for outdoor audio include:

- crowd barriers around equipment
- flying towers
- occupational safety and health requirements
- platforms
- protection for equipment
- rigging
- support and mixing positions

UNDERPINNING KNOWLEDGE & SKILLS

Candidates must know:

1. what are the occupational health and safety regulations and procedures that refer to personal safety and safety of others
2. how to identify accurately the characteristics of the sound source
3. what sound is required and the artistic, technical and operational requirements of production
4. how to operate a range of sound production equipment
5. how to effectively communicate with clients and colleagues
6. how to work effectively with clients and colleagues
7. how to effectively explain technical issues to non technical people
8. how to deal with and communicate contingencies, difficulties and problems in delivering your work
9. how to apply time management strategies and set priorities
10. what are the procedures for dealing with typical equipment problems and threats to safety
11. how to identify necessary power requirements

EVIDENCE GUIDE**(1) Critical Aspects of Evidence**

Evidence should include a demonstrated ability to:

- communicate effectively with customers and colleagues (including those with special needs) within the range of situations required for the relevant job role
- prioritise jobs and tasks
- perform all tasks according to established procedures
- maintain professional performance standards

(2) Method of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. 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.

(3) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both on and off the job. 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 an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

CI00032: Organise and monitor load in/load out
Unit Descriptor:

This unit describes the skills and knowledge required to oversee the load in/load out process for one or more technical aspects of a production.

ELEMENTS
PERFORMANCE CRITERIA

Candidates must be able to:

1	Identify and organize physical element requirements	1.1	Interpret production documentation to determine the scope and type of physical elements required
		1.2	Check inventory to ensure that physical elements are available and ready for use
		1.3	Identify the need for additional equipment or materials and order or organise these in accordance with organisational procedures and relevant budgetary guidelines
2	Make plans for movement of physical elements	2.1	Liaise with other production personnel to determine the most effective sequential order for the movement and installation of physical elements
		2.2	Identify relevant transport requirements in accordance with standard operating procedures
		2.3	Organise transport or communicate needs to appropriate personnel as required in accordance with organisational procedures
		2.4	Make realistic estimates of the number of people required for the movement of equipment and provide information to relevant colleagues
		2.5	Document plans for movement and installation of equipment in accordance with organisational procedures
3	Oversee the movement of physical elements	3.1	Provide clear instructions to appropriate personnel regarding the movement of physical elements to ensure safety and avoid damage to equipment
		3.2	Monitor the load in/load out process to ensure that work is carried out in accordance with instructions
		3.3	Organise appropriate storage and security of physical elements where required, including valuable items and any hazardous materials

RANGE STATEMENT

Physical elements include any equipment or materials used for a production, including:

- staging
- support equipment, e.g. performer amenities
- backline
- racks
- monitors
- sound equipment

Production documentation include:

- equipment lists
- technical plans

Other production personnel include:

- production managers
- stage managers
- technical managers
- other technical specialists

Transport requirements include:

- road vehicles (organisation or hired)
- other modes of transport

Transportation requirements be needed to or from:

- outside facilities
- rehearsal facilities
- storage facilities
- suppliers' facilities
- workrooms
- workshops

Underpinning Knowledge & Skills

Candidates must know:

1. what are effective communication techniques in relation to team leading
2. how to seek feedback from team as part of ongoing evaluation of processes
3. how to explain the load in/load out process, including an overview of the requirements and issues faced by different technical areas
4. what are the planning and organisational requirements for the load in/load out process
5. what are the roles of key personnel in the load in/load out process
6. what are the typical issues and problems encountered in the load in/load out process
7. what are the procedures for reporting typical equipment problems and threats to safety
8. how are inventory systems and restocking procedures used for equipment and materials in an entertainment context
9. what are the relevant Occupational Health and Safety regulations that affect the allocation of work and the movement of physical elements

EVIDENCE GUIDE**(1) Critical Aspects of Evidence**

Evidence should include a demonstrated ability to:

- organize and coordinate the work of a team for load in/load out
- apply knowledge of the load in/load out process in a given industry context
- solve problems in dynamic situations
- demonstrate compliance with Occupational Health and Safety regulations applicable to workplace operations
- perform all tasks according to established procedures
- prepare written reports

(2) Method of Assessment

Assessors should gather a range of evidence, over a period of time, which is valid, sufficient and authentic. Evidence should be gathered through a variety of ways including evaluation of a load in/load out process coordinated by the candidate, evaluation of reports prepared by the candidate detailing the methods used to organise a load in/bump out, challenges faced and how these were resolved, case studies and problem solving exercises to assess ability to plan for different operational situations and contexts, direct observation and oral questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit competency. 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, manufacturer's specifications, codes, standards, manuals and reference materials.

(3) Context of Assessment

This unit may be assessed on the job or off the job. The assessment context must provide for practical demonstration of skills through the coordination of a load in/load out process for multiple productions. Where assessment is done off the job, 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 working individually or as part of a team.

This unit could be assessed in conjunction with other units in the qualification.

CI00033: Install and connect electrical wiring
Unit Descriptor:

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

ELEMENTS
PERFORMANCE CRITERIA

Candidates must be able to:

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|---|---------------------------|---|
| 1 | Prepare for work | 1.1 Work is planned and prepared to ensure procedures are followed and the work is appropriately sequenced in accordance with requirements.

1.2 Condition and ratings under which the circuit is to operate is determined from requirements and in consultation with appropriate personnel followed by written instruction.

1.3 Cables and electrical accessories are selected to comply with standards and requirements for the condition and determined rating.

1.4 Materials necessary to complete the work are obtained in accordance with established procedures and checked against job requirements.

1.5 Tools, equipment and testing devices needed to carry out the work are obtained in accordance with established procedures and checked for accurate operation and safety.

1.6 Potential safety hazards/risks are identified and prevention and/or control measures are employed in accordance with health and safety requirements.

1.7 Occupational health and safety requirements include use of personal protective gear are identified and followed and a clean and safe work environment is maintained. |
| 2 | Install electrical wiring | 2.1 Electrical wiring are inspected and tested for faults and defects in accordance with manufacture's specifications, regulatory requirements and organisation's policies and procedures.

2.2 Defective electrical cables are replaced and reported in accordance with organisation's policies and procedures.

2.3 Route for cable installation is selected that ensures integrity of circuit and safety of all persons. |

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

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

RANGE STATEMENT

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

Termination and connection include:

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

Tools and equipment include:

- pliers
- screwdrivers
- hammers
- multimeter
- soldering iron

Accessories include:

- power outlets

Material include:

- cable
- solder
- connectors
- straps
- electrical tape

Damages to accessories include:

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

Electrical supplies include:

- alternating current
- direct current

- breakers
- transformers

Testing include:

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

Personal protective equipment include:

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

Workplace policies and procedures include:

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

Equipment include:

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

Installation include:

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

Potential safety hazards include:

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

Occupational Health and Safety requirements include:

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

Sources of information/documentation include:

- manufacturer's specifications
- organisation's operating procedures
- work specifications
- technical manuals
- industry publications
- workplace records

- customer requirements
- industry standards
- workplace codes of practice

Cable damage include:

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

UNDERPINNING KNOWLEDGE AND SKILLS

Candidates must know:

1. what are the types of electrical cables
2. how to select ,use and maintain equipment and tools to standard requirements
3. what is electrical circuitry, electrical principles, power rating and electrical accessories
4. how to apply joining and bonding methods
5. what are the types of joints
6. what are the various installation methods
7. how to read and interpret technical information
8. how to communicate effectively
9. how to perform installation and termination procedures
10. how to apply problem solving techniques
11. what are the relevant guidelines, regulations and codes of practice
12. what are company policy and reporting procedures
13. how to work safely and follow standard procedures
14. how to install an electrical conduit system
15. how to plan and organise work
16. how to identify and replace defective material
17. how to carry out all recording, reporting and documentation activities
18. what safety requirements for equipment is needed in the workplace

EVIDENCE GUIDE

(1) Critical Aspects of Evidence

Evidence should include a demonstrated ability to:

- apply knowledge of electrical circuitry, installation and termination procedures and regulatory and industry requirements
- determine work requirements and plan and organise work to fulfil such requirements
- select and use tools, equipment and material to complete tasks to specifications
- identify and replace defective material/equipment/accessories

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

(2) Method of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. 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.

(3) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both on and off the job. 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 an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

CI00034: Move and set up instruments and equipment

Unit Descriptor:

This unit deals with the skills and knowledge required to load and transport instruments and/or equipment to a venue, and set up those instruments at the venue for any production in the creative industries.

ELEMENTS

PERFORMANCE CRITERIA

Candidates must be able to:

1	Plan for the safe manual handling of instruments and equipment	1.1	Determine the accurate placing of equipment and instruments through communication with performers, head of technical crew and/or musical director as required
		1.2	Verify plans with company approved personnel where required before loading in or loading out.
		1.3	Secure moving devices where possible to assist personnel in accordance with established procedures
		1.4	Confirm the sequence in which equipment will be moved with company approved personnel where required, in accordance with company approved procedures
		1.5	Confirm any special conditions of the job
		1.6	Determine all likely problems associated with moving instruments and equipment and verify tasks with all relevant personnel
2	Use Personal Protective Equipment (PPE) for protection	2.1	Check that a first aid kit is available at all times and ensure that all essential items for the kit are always on hand.
		2.2	Wear protective clothing to protect the body according to workplace procedures
		2.3	Use lifting equipment or accessories where required in accordance with Occupational Safety and Health (OSH) requirements
3	Load and/or unload a van or truck with equipment	3.1	Verify list of all items to be packed according to workplace procedures
		3.2	Check that packaging is done in a manner to minimise movement in transit according to established procedures.
		3.3	Check that gear is packed in the appropriate order taking account of weight, fragility and unloading requirements.
		3.4	Verify that packaging is done to distribute weight evenly, front to back and left to right.

4	Move and set up instruments and equipment	4.1	Ensure that instruments, equipment and personnel are protected against damage, loss or injury while they are being moved and set up
		4.2	Set up instruments and equipment according to agreed plans, ensuring the safety of performers, crew, front of house staff and the public.
		4.3	Check that all cables are run in accordance with safety guidelines
5	Disassemble sound equipment after use	5.1	De-rig equipment safely according to workplace procedures
		5.2	Report any lost or damaged equipment to company approved personnel.
		5.3	Account for all equipment before packing and check that cabling is stored tidily and methodically according to established procedures.
		5.4	Check that the working environment is left clean after use according to established procedures
		5.5	Deal with problems promptly and effectively according to workplace procedures
		5.6	Observe safe lifting and handling practices and apply Occupational Safety and Health (OSH) principles at all stages.

RANGE STATEMENT

This unit applies to activities associated with the essential operations linked to moving and setting up instrument and equipment.

Instruments and equipment include:

- musical instruments
- instrumental accessories, cases and spare parts
- sound equipment and cabling
- stands
- utility lights

Special conditions of the job include:

- stairs
- narrow spaces
- environmental factors
- traffic
- safety hazards
- crowds

Personal Protective Equipment (PPE), clothing and accessories include:

- safety shoes
- ear plugs or earmuffs
- protective gloves
- back braces

Statutory regulations include:

- local
- national
- Occupational Safety and Health (OSH)

UNDERPINNING KNOWLEDGE & SKILLS

Candidates must know:

1. what are the relevant principles and regulations of occupational safety and health, especially safe lifting
2. what are technical cues
3. how to care for and secure instruments and equipment
4. what are the procedures for packaging and transporting equipment
5. what are the procedures for rigging and de-rigging equipment
6. what are the necessary reporting procedures
7. what are the necessary installation procedures
8. what are the necessary testing procedures
9. how to communicate clearly to achieve planned outcomes
10. how to work effectively with others
11. how to set priorities and deadlines
12. how to select and use available technology appropriate to the task
13. how to ensure the care and security of instruments and equipment
14. how to use moving devices
15. how to complete documentation
16. how to install and test instruments/equipment
17. how to follow technical cues where relevant
18. how to work effectively with others

EVIDENCE GUIDE

Competency is to be demonstrated by the ability to move and set up instrument and equipment in accordance with the performance criteria and the range listed within the range statements.

(1) Critical Aspects of Evidence

Evidence should include a demonstrated ability to:

- apply knowledge of Occupational Health and Safety principles
- apply safe handling of heavy materials and use of appropriate protective gear/equipment
- confirm and follow instructions
- follow installation procedures safely and perform relevant testing and checks
- comply with Occupational Health and Safety regulations

(2) Method of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. 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.

(3) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both on and off the job. 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 an individual working alone or as part of a team. This unit could be assessed in conjunction with other units in the qualification. The assessment environment should not disadvantage the candidate.

CI00035: Select and manage microphone and other audio input sources

Unit Descriptor:

This unit describes the skills and knowledge required to select and manage audio input sources and the audio signals these devices create.

ELEMENTS

PERFORMANCE CRITERIA

Candidates must be able to:

1	Select microphones and other input sources according to application	1.1	Analyse performance outline and liaise with appropriate colleagues to determine audio requirements
		1.2	Assess the venue/location to determine input source options based on acoustic analysis and any physical limitations
		1.3	Assess the acoustic source of the audio to identify the preferred microphone placement
		1.4	Identify and select the most appropriate microphone options for specific purposes
2	Manage inputs	2.1	Prepare and implement an appropriate microphone plot
		2.2	Patch microphone signals to the audio mixing desk, including multicore snake where required
		2.3	Prepare and maintain an input signal failure plan
		2.4	Test input sources, identify any problems promptly and take action to rectify appropriately

RANGE STATEMENT

Acoustic sources include:

- acoustic instruments
- electric instruments
- the voice for dramatic dialogue
- the voice for lectures and meetings
- the voice for music

Microphone options include:

- condenser
- dynamic

Microphones for specific purposes include:

- lectern
- specific instruments, e.g. piano, electric guitar

- stage dialogue

UNDERPINNING KNOWLEDGE & SKILLS

Candidates must know:

1. what are the current trends in microphone development and the availability of products
2. what terminology is associated with input source management
3. what are the different types of microphones and their applications, including different audio pick up patterns, microphone behaviour in different environments, acoustic consequences of signal phase problems, the use of phantom power
4. what are the techniques for management of diverse input signal types, and their limitations
5. what are the microphone requirements for different types of environment, including live sound, studio recording and live broadcast
6. how to prepare a microphone plot, including key elements and relevant issues for consideration
7. how to prepare an input signal failure plan

EVIDENCE GUIDE

(1) Critical Aspects of Evidence

Evidence should include a demonstrated ability to:

- select, set-up and test a microphone plot
- apply an in-depth knowledge of microphone technology and product options sufficient to complete a complex set-up

(2) Method of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. 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.

(3) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both on and off the job. 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 an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

CI00036: Set up and operate stage monitor systems

Unit Descriptor:

This unit describes the skills and knowledge needed to determine the requirements for a stage monitor system, and to set up and operate that system for performers.

ELEMENTS

Candidates must be able to:

PERFORMANCE CRITERIA

1	Determine performance requirements	1.1	Obtain performance and venue information to inform the planning of the stage monitor system
		1.2	Interpret documentation to determine system requirements according to established procedures
		1.3	Liaise with venue technicians and other departments to allocate the adequate set up time and to confirm requirements for stage monitor system set up and checking
2	Specify stage monitor system	2.1	Prepare accurate stage layout diagram with proposed placements of all required stage monitor equipment
		2.2	Check that in-ear or wireless equipment and accessories are available through liaison with relevant personnel, when required
		2.3	Select appropriate stage monitor or in-ear monitors (IEM) for each required send (mix)
		2.4	Select appropriate stage monitor loudspeaker or in ear processing and/or amplification, plus cabling
		2.5	Ensure adequate monitoring and communication systems are in place for all relevant personnel
3	Set-up equipment and prepare for performance	3.1	Set up monitor console, processing/amplification racks and engineer's cue wedge completing all appropriate checks
		3.2	Check that all cables are neatly routed and secured and that all equipment is safely positioned
		3.3	Verify that there are adequate resources available in the event of equipment breakdown
		3.4	Label stage monitor console input channel strips, and all processing equipment so that each item is clearly identified as to function and relevant mix

- 3.5 Position all stage monitors and neatly run/fix all appropriate cables in accordance with health and safety requirements
 - 3.6 Cross check final set-up against production requirements
 - 4 Tune, equalise and adjust system for performance
 - 4.1 Test all components of the stage monitor system, including a complete line check of all inputs and outputs, in accordance with manufacturers' specifications
 - 4.2 Equalise each stage monitor send individually to avoid run-away feedback
 - 4.3 Cross check all adjacent stage monitors to eliminate acoustic interference
 - 4.4 Run complete system to safe working limit, while front of house speaker system is operating, to check adequate performance and mains power availability
 - 5 Liaise with performers on requirements
 - 5.1 Establish and maintain a positive working relationship with relevant performance personnel
 - 5.2 Reconfirm production requirements with each relevant performer and check that set-up meets individual requirements in relation to quality, balance and mix sound levels
 - 5.3 Identify malfunctions promptly and rectify appropriately
 - 6 Operate console during production
 - 6.1 Observe occupational safety and health requirements for operating the sound mixing console
 - 6.2 Operate faders to produce a level appropriate to the required sound, and check each monitor
 - 6.3 Make appropriate adjustments to equalisers to produce an appropriate tonal quality
 - 6.4 Monitor sources and outputs both aurally and visually to meet with accepted safety standards and production requirements
 - 6.5 Identify and troubleshoot any problems on stage promptly and appropriately
 - 6.6 Process audio signals, adding desired effects or other signal processing where required
 - 6.7 Communicate appropriately with relevant personnel throughout the production, when required

- | | | | |
|---|--------------------------|-----|--|
| 7 | Complete work operations | 7.1 | Verify that any equipment handled is cleaned, maintained and stored in accordance with organisational and/or production requirements |
| | | 7.2 | Ensure that the work environment is clean and restored to its original condition in readiness for the next user |

RANGE STATEMENT

Information required to plan stage monitor system include:

- input sources
- performance schedule
- performance style
- stage layout

Requirements for stage monitor system set-up and checking include:

- need for a clear stage
- sound check with performers
- stage monitor system equalisation with non-essential personnel removed from the stage area

Stage layout diagram would include positioning of:

- monitor speakers
- multicore stage box
- processing and amplification racks
- stage monitor console
- establishment of adequate balanced lines available from splitter system for stage monitors

Wireless equipment and accessories include:

- batteries
- reverb or external effectors
- stands/microphone mounts

Checks to be undertaken when setting up stage monitor system include:

- Phantom power switches off
- Position of equalisation controls
- Re-setting of external processing gear to flat (if EQ)
- Setting of external effectors or signal enhancers start up position
- Re-setting of auxiliary sends to zero decibels
- Setting all masters to unity again

UNDERPINNING KNOWLEDGE & SKILLS

Candidates must know:

1. what type of information is required to plan stage monitor systems
2. what are the features of different types of stage monitor systems for different contexts, including different equipment requirements
3. what issues/challenges are associated with stage monitor systems

4. what safety issues are associated with the set-up and installation of stage monitor systems
5. what issues are associated with foldback mixing for different applications, e.g. concert, theatre
6. what are the techniques for equalization of foldback speakers

EVIDENCE GUIDE

(1) Critical Aspects of Evidence

Evidence should include a demonstrated ability to:

- plan, set-up and operate a stage monitor system that meets production and performer requirements
- apply an in depth knowledge of stage monitoring equipment and the range of issues and challenges associated with operation of the equipment in a live production environment

(2) Method of Assessment

Assessors should gather a range of evidence, over a period of time, which is valid, sufficient and authentic. Evidence should be gathered through a variety of ways including direct observation, oral questioning, examination of portfolio and simulation. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit competency. 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, manufacturer's specifications, codes, standards, manuals and reference materials.

(3) Context of Assessment

This unit may be assessed on the job or off the job. Where assessment is done off the job, 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 an individual working alone or as part of a team.

The assessment context must provide for:

- practical demonstration of skills through the planning, set-up and operation of stage monitor systems for more than one live production
- involvement of, and interaction with, a production team and performers to reflect the collaborative nature of the process
- use of industry-current equipment

This unit could be assessed in conjunction with other units in the qualification

CI00037: Provide sound reinforcement
Unit Descriptor:

This unit describes the skills and knowledge required to operate sound reinforcement systems for live performances.

ELEMENTS
PERFORMANCE CRITERIA

Candidates must be able to:

- | | | | |
|---|---|-----|--|
| 1 | Prepare for sound reinforcement operations | 1.1 | Confirm front-of-house sound reinforcement requirements, in consultation with relevant personnel referring to production documentation as required |
| | | 1.2 | Check that equipment has been accurately installed and tested according to standard operating procedures |
| | | 1.3 | Prepare for playback of pre-recorded material as required |
| | | 1.4 | Check that equipment anticipates the need for standby facilities |
| | | 1.5 | Adjust the sound system to take account of venue acoustics and do final sound check in accordance with company policy, approved procedures and industry requirements |
| 2 | Monitor sound reinforcement operations | 2.1 | Verify that sound quality and balance meet artistic and technical requirements |
| | | 2.2 | Monitor sound levels to ensure they do not exceed safe noise levels in accordance with legislative requirements and manufacturer's instructions |
| | | 2.3 | Control system gain and microphone equalization and position to avoid audio feedback with a live microphone |
| | | 2.4 | Identify and rectify malfunctions with minimum disruption to sound quality according to standard operating procedures |
| | | 2.5 | Communicate appropriately with relevant personnel throughout the production |
| 3 | Create sound mix to production requirements | 3.1 | Control sound sources to a level, tonal quality and perspective for the required sound according to workplace procedures |
| | | 3.2 | Check that stereo and multi-channel sound sources have the required compatibility according to established |

		procedures
	3.3	Adjust sound sources so that they are intelligible in terms of the sound required
	3.4	Adjust sound sources so that they have a position and image for the required sound
	3.5	Control the level of the composite signal within technical limits and the desired dynamic range
4	Complete work operations	4.1 Complete required documentation in line with industry procedures
		4.2 Supervise the disassembly of audio equipment according to company/manufacturer's procedures/instructions
		4.3 Seek feedback from relevant personnel on own workplace performance and note areas for improvement

RANGE STATEMENT

Relevant personnel include:

- artists, musicians and performers
- sound engineers and technicians
- broadcasters
- clients
- directors
- producers
- program managers
- venue managers
- stage managers
- sound designers
- video and sound recorders

Documentation include:

- checklist
- house plans
- sound plans
- line diagrams
- installation schedules
- artistic requirements
- scripts
- dubbing sheets
- technical equipment manuals
- organisation's operating procedures

Productions include:

- live music or theatre performance
- commercial
- print media
- corporate video
- feature film and/or video
- filmed event and/or performance
- interactive media product
- internet production
- electronic game production
- radio broadcast
- television program

Checking equipment involves ensuring that:

- amplification equipment has been connected in the right sequence
- loudspeakers are positioned to:
 - produce optimum quality
 - avoid feedback and other extraneous noise
- cables are:
 - routed and secured safely
 - visually unobtrusive
- leads and associated electricals are patched

- and standards
- stage plans
- sound plots
- design, director's and sound specifications
- production and venue requirements
- production schedules
- OSH requirements and instructions
- manufacturer specifications
- performers' requirements
- fault report sheets
- standard operating procedures
- work permits
- environmental documents
- EMA regulations

- into the input and output sockets
- adequate resources are available in the event of equipment breakdown.

Equipment include:

- multi-range speaker systems
- amplifiers
- playback equipment
- cables and connectors
- headphones
- microphones and accessories
- mixing consoles and desks
- monitors and speakers
- signal processors and plug-ins
- effects rack
- turntables
- audio input sources
- equalizer
- DAT machine/cassette
- DVD
- mini disc
- sequencer/sampler
- tape machines
- iPods

Preparation for playback of pre-recorded material involve:

- ensuring that playback machines are referenced and synchronisation protocols are compatible
- ensuring that technical and artistic requirements are met
- checking sound levels with relevant personnel
- ensuring that loudspeakers are close enough to relevant personnel to avoid coloration and time delay.

UNDERPINNING KNOWLEDGE & SKILLS

Candidates must know:

1. what equipment is required to provide sound reinforcement and what are the relevant safety checks
2. what are the range of microphones and contexts in which they are used
3. what are the characteristics of the microphone and loudspeaker e.g., frequency response, sensitivity and polar patterns and how to optimize their operation for the sound required
4. what is the effect of microphone placement on quality of sound

5. what are the characteristics of sound in a range of environments
6. what is signal-to-noise ratio, signal phase and audio level/headroom control
7. how to identify audible defects in analogue and digital technologies
8. what are the characteristics of mixers, amplifiers, speakers and effects racks and how to optimize their operation for the sound required
9. what are the basic principles of acoustics, i.e., frequency, pitch, amplitude, loudness, velocity, wavelength, delay, sound absorption, timbre, sound envelope and how to apply them in the current context
10. how to apply knowledge of psychoacoustic principles, including, spatial hearing, direct sound, early sound, reverberant sound and room design
11. how to assess change of acoustics due to presence of audience
12. what are the techniques for aligning and testing audio equipment
13. how to apply understanding of electrical power (voltage, distribution, phasing, load and circuit breaking)
14. how to apply knowledge of a range of sound equipment and associated operating principles (level, impedance, phase and frequency)
15. how to test and tag electrical fittings in accordance with safety regulations
16. what are the issues and challenges that typically arise in the context of providing sound reinforcement
17. how to identify typical faults that may occur in sound reinforcement systems and apply problem solving skills
18. how to apply principles of safe listening, such as safeguards against hearing loss
19. what are the relevant acts, regulation and codes of practice, especially in regard to Occupational Safety and Health and Environmental issues, e.g. licensing requirements for persons performing high risk work, safe manual-handling techniques and working safely with electricity and hazardous substances
20. what are the current noise at work regulations/EMA regulations
21. what are the relevant national and international interconnection standards (Audio Engineering Society)
22. what are the techniques used with multi-speaker and point source systems
23. how to determine the sound mix required
24. what is the use of signal processing: equalization, effects, dynamics
25. what are the compatibility issues between mono, stereo, multi-channels and surround sound
26. how to operate sound reinforcement systems
27. how to test sound equipment in line with industry standards
28. how to interpret block diagrams of equipment and system set-ups
29. how to communicate and work effectively in a team environment
30. how to prioritize work tasks and meet deadlines

EVIDENCE GUIDE

(1) Critical Aspects of Evidence

Evidence should include a demonstrated ability to:

- provide a live sound mix for performances on at least three occasions that demonstrates an understanding of room acoustics and the principles of sound reinforcement
- test equipment in line with production requirements
- work cooperatively in a team environment
- apply OSH procedures, particularly in relation to safe noise levels
- perform all tasks in accordance with standard operating procedures
- take responsibility for the quality of their own work

(2) Method of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. 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.

(3) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both on and off the job. 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 an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

CI00038: Mix live audio
Unit Descriptor:

This unit covers the skills and knowledge required to tune and balance audio equipment and mix audio sources

ELEMENTS
PERFORMANCE CRITERIA

Candidates must be able to:

- | | | | |
|---|----------------------------------|-----|--|
| 1 | Tune and balance audio equipment | 1.1 | Power up equipment and check to ensure it is in working order. |
| | | 1.2 | Match interfaces between audio and destination in accordance with level, impedance, phase and frequency |
| | | 1.3 | Route signals to signal path according to standard operating procedures |
| | | 1.4 | Operate faders to produce an audio level in accordance with production requirements |
| | | 1.5 | Operate audio controls in accordance with acoustic and dynamic requirements |
| | | 1.6 | Identify promptly faults and problems and take appropriate action to rectify or report to relevant personnel |
| | | 1.7 | Complete audio check, implement any required adjustments and document accurately in accordance with organisational requirements. |
| 2 | Mix audio sources | 2.1 | Mix audio to produce the required audio level and tonal balance in accordance with production requirements |
| | | 2.2 | Monitor signal paths throughout the performance in accordance with standard operating procedures |
| | | 2.3 | Select effects in accordance with production requirements. |
| | | 2.4 | Adjust equalisation for required tonal balance. |
| | | 2.5 | Adjust relative fader levels in accordance with the musical context. |
| | | 2.6 | Balance signal levels according to standard operating |

-
- procedures
- 2.7 Produce transitions between sound signals that are technically accurate and produce the required effect
 - 2.8 Ensure that the level of the composite signal is within technical limits and the desired dynamic range.
 - 2.9 Maintain overall audio level in accordance with venue requirements and safe noise levels
- 3 Operate console during production
- 3.1 Execute all audio cues in accordance with the running sheet, directions from colleagues and performance requirements
 - 3.2 Identify promptly the need for change during the performance and modify cues as required to cater for unexpected events and to minimize negative impact on the performance
 - 3.3 Operate console to produce the required technical level and tonal balances according to established procedures
 - 3.4 Use built in filters and equalizers on mixing console where applicable according to approved procedures
 - 3.5 Demonstrate insertion of outboard signal processor into signal path to alter sound according to approved procedures
 - 3.6 Use auxiliary sends to send signal to an outboard signal processor or other external devices according to established procedures
 - 3.7 Return signal to mixing console to enhance sound according to established procedures
 - 3.8 Control signal by grouping signal using busses according to approved procedures
 - 3.9 Adjust equalization for required tonal balance and balance signal levels according to standard operating procedures
 - 3.10 Maintain overall audio level within the requirements of the venue according to industry standards
 - 3.11 Play back audio effects at the required level through the appropriate speakers according to established procedures

		3.12	Monitor equipment for accurate operation throughout the performance and identify and action any problems appropriately according to workplace procedures
4	Complete post performance procedures	4.1	Check that all equipment are handled, cleaned, maintained and stored in accordance with organisational and/or production requirements
		4.2	Power down equipment in sequence and in accordance with manufacturer's instructions
		4.3	Identify and complete necessary equipment adjustments, including maintenance and re-setting where appropriate, according to standard operating procedures
		4.4	Make changes to documentation and process in accordance with organisational procedures

RANGE STATEMENT

Signal include:

- line level,
- microphone level

Signal processors include:

- gates,
- compressors,
- limiters,
- equalizers

Return includes:

- auxiliary return
- spare channels

Dynamic range include:

- vocals
- drums
- guitars

Phantom power include:

- condenser microphones,
- active direct boxes

External devices include:

- effects unit
- reference monitors

Compressors/ Limiters include:

- threshold,
- attack
- release
- ratio
- output
- key
- filters

Gating controls include:

- threshold
- attack
- release
- ratio
- output

- key filters

Effects include:

- reverbs
- delays
- modulation
- compression
- echo
- distortion
- gates
- limiters
- pitch band

Consumables include:

- DAT
- CD-R
- Mini Disc
- iPods

Equipment used include:

- multi track recorder
- stereo recorder
- microphones
- wireless microphones
- amplifiers
- equalizer
- audio input sources
- patch bass
- break out boxes
- speakers
- mixing console/desk - analogue, digital, digitally controlled analogue (hybrid)
- effects rack
- tape machines
- turntables
- CD player/burner
- sequence sampler
- computer DAT
- mini disc
- hard disc recorder
- DVD
- sound recording and playback software

Documentation include:

- track sheets
- music charts
- scripts
- scores
- cue sheets
- manuals
- audio plots
- design, director's and sound specifications
- manufacturer's specifications
- occupational safety and health requirements (OSH Act)
- relevant industry codes of practice
- company manual
- performers' requirements
- production and venue requirements
- production schedule
- stage plans
- text requirements
- recording report
- technical rider

Sound components include:

- music
- dialogue
- additional dialogue/ voice overs
- effects
- atmosphere
- foley

Appropriate personnel include:

- producers
- conductors
- directors
- artists
- editors
- program managers
- broadcasters
- performers
- other technical staff
- other specialist staff

UNDERPINNING KNOWLEDGE & SKILLS

Candidates must know:

1. what is the function of gain control
2. what is the function of the equalizer section
3. what is the function of auxiliary section
4. what is the function of groups section
5. what is the function of the matrix
6. what is the function of the insert point
7. what is the function of an auxiliary send
8. what are the features and operating procedures of mixing consoles, amplifiers, speakers and equalizers
9. how to identify the types of signal distortions that occur in amplifiers
10. what are the techniques for amplifying music to suit varying live environment conditions
11. how to recognize the typical faults and problems that may occur in a live audio environment and ways of addressing these
12. what are the features, formats and meaning of audio production documentation and plans, including cue sheets and audio plans
13. what are the varied characteristics of sound in a range of environments
14. how to use sound shaping effects
15. how to monitor sound levels
16. what are the three categories of signal processing
17. what are the applications of each of the three categories of signal processing
18. what type of processing would an insert point be used for
19. what type of processing would an auxiliary send be used for
20. what is a voltage controlled amplifier
21. why is it important to follow the proper procedures to connect sound equipment
22. what are the compatibility issues between mono, stereo, multi-channel and surround sound.
23. what is the difference between pre fade and post fade
24. what are the uses of pre fade listen (pfl)
25. what are peak meters used for
26. how to shut down the system
27. why is grounding important
28. why is phantom power preferred rather than battery power
29. what are the types of consoles and their features e.g. small and large FOH consoles, analogue and digital and their mixing capabilities
33. what are the main outputs of consoles and their uses
34. what are the typical mixing requirements for different types of performance, e.g. theatre, music concert
35. what are the techniques for adding sub-mixers and properly patching into system
36. how to apply knowledge of working with automation, snapshot automation and cue delivery
37. how to use SMPTE and/or MIDI to fire cues and automation
38. what are the dynamic automation factors sufficient to understand processing limitations and interface required for timed (dynamic) automation and crossfades
39. what are contemporary audio effectors and DSP effects

40. what are signal processing options and their applications, including use of signal processing as a tool for troubleshooting and creative uses for effects and signal processing

EVIDENCE GUIDE

(1) Critical Aspects of Evidence

Evidence should include a demonstrated ability to:

- use the range of console features to mix audio which meets the requirements of a production
- apply knowledge of specific techniques for mixing audio in different environments
- apply knowledge of accurate and safe operation of professional audio equipment to meet production requirements
- measure and calculate using either musical terms or time based references
- communicate information about processes, events or tasks being undertaken to ensure safe and efficient working environment
- use accepted engineering techniques, practices, processes and workplace procedures
- take responsibility for the quality of one's own work
- perform all tasks according to established procedures
- comply with Occupational Safety and Health (OSH) regulations applicable to workplace operations

(2) Method of Assessment

Assessors should gather a range of evidence, over a period of time, which is valid, sufficient and authentic. Evidence should be gathered through a variety of ways including direct observation and oral questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit competency.

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

- evaluation of the mix at a live event where the candidate is responsible for mixing audio
- case studies to assess ability to adapt mix to different production environments
- oral or written questioning to assess knowledge of mixing techniques and equipment features
- review of portfolios of evidence and third party workplace reports of on-the-job performance by 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, manufacturer's specifications, codes, standards, manuals and reference materials

(3) Context of Assessment

This unit may be assessed on the job or off the job. Where assessment is done off the job, 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 an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The assessment context must provide for:

- practical demonstration of skills through the mixing of audio for more than one live performance/production

- involvement of and interaction with a production team to reflect the collaborative nature of the production process
- the use of industry-current equipment.

CI00027: Set up and disassemble audio equipment

Unit Descriptor:

This unit describes the skills and knowledge required to install and disassemble sound equipment in a range of facilities and applies to individuals working as audio engineers and sound technicians.

ELEMENTS

PERFORMANCE CRITERIA

Candidates must be able to:

1	Prepare for installation of audio equipment	1.1	Confirm sound equipment requirements, in consultation with relevant personnel, referring to production documentation as required
		1.2	Assess the acoustic properties of installation area with relevant personnel to ensure that equipment and accessories are appropriate
		1.3	Calculate power requirements and identify power locations and patching requirements
		1.4	Communicate special requirements to relevant personnel so that they can be organised in a timely fashion
		1.5	Check in hired equipment according to standard operating procedures
2	Install audio equipment	2.1	Secure and label cabling safely and neatly so that it is clear of moving elements
		2.2	Set up power distribution according to standard operating procedures
		2.3	Position microphones, microphone accessories and cable according to standard operating procedures
		2.4	Verify that lapel microphones fitted to personnel meet technical performance standards as required
		2.5	Provide phantom power at microphone inputs as required
		2.6	Perform all installation work with due regard to mechanical and electrical safety considerations
		2.7	Connect effects rack to mixer as required , in accordance with manufacturer's specifications

-
- | | | | |
|-----|-----------------------------|-----|---|
| 3.0 | Align audio equipment | 3.1 | Match interfaces between source and destination according to level, impedance, phase and frequency |
| | | 3.2 | Route test signals to the signal path in accordance with industry standards |
| | | 3.3 | Check that the level of test signal is accurate for production requirements |
| | | 3.4 | Check systems for potential feedback frequency problems and make adjustments as required |
| 4 | Test audio equipment | 4.1 | Check all microphone lines for continuity and patching |
| | | 4.2 | Test microphones to ensure that they are functioning to produce the required sound |
| | | 4.3 | Fit microphones to relevant personnel to perform sound cues as required |
| | | 4.4 | Patch, test and tune sound system to suit facility according to workplace procedures |
| | | 4.5 | Conduct sound check and document adjustments according to organisational procedures |
| | | 4.6 | Inform relevant personnel of problems that arise during testing so that they can be rectified in a timely fashion |
| 5 | Disassemble audio equipment | 5.1 | Disassemble equipment safely, giving due consideration to other production requirements |
| | | 5.2 | Verify that all equipment and accessories are packed and stored according to safety regulations and production requirements |
| | | 5.3 | Check hired equipment against inventory before packing and report lost or damaged equipment to the appropriate personnel |
| | | 5.4 | Verify that sound equipment for transit are packed as required |
| | | 5.5 | Check that work environment is cleaned after use and restored to previous condition |
| | | 5.6 | Seek feedback from relevant personnel on own work performance and note areas for improvement |

RANGE STATEMENT

Relevant personnel include:

- artists, musicians and performers
- audio and sound engineers
- audio and sound technicians
- broadcasters
- clients
- directors
- producers
- photographers
- post-production personnel
- program managers
- stage managers
- sound designers and editors
- sound effects personnel
- video and sound recorders

Sound equipment include:

- amplifiers
- sound reinforcement systems, including:
 - front-of-house
 - stage foldback
 - limiters
 - compressors
 - effects rack
 - turntables
 - analogue to digital converters
 - cables and connectors
 - compact disc (CD) and digital versatile disc (DVD)
- players and burners
- computer technology and associated software
- digital and analogue recording devices:
- hard disk recorder, e.g. digital audio workstation(DAW)
- digital audiotape recorder, e.g. S-DAT and R-DAT
- digital videotape recorder (DVTR)
- mini disc recorder (MD)
- modular digital multi-track recorder (MDM)
- open-reel analogue audiotape recorder
- digital audio players, such as:
 - iPod
 - MP3
- headphones
- microphones and accessories
- mixing consoles and desks
- monitors and speakers
- signal processors and plug-ins
- sequencers and samplers
- musical instruments

Productions include:

- live music or theatre performance
- commercial
- print advertisement
- corporate video
- feature film and/or video
- filmed event and/or performance
- interactive media product
- internet production
- electronic game production
- music recording and/or video

Documentation include:

- house plans
- sound plans
- line diagrams
- installation schedules
- artistic requirements
- scripts
- musical scores
- dubbing sheets
- technical/equipment manuals
- organisation's operating procedures and standards

- promotional trailer
- radio broadcast
- television program
- voice-over

Installation area include:

- stage
- venues
- auditorium
- hotels
- clubs
- front of house

Microphones include:

- boundary (PZM)
- capacitor/condenser, such as:
 - electrets
 - lavalier
 - mini microphone
 - transistor
 - tube
- contact
- digital
- directional, such as:
 - single entry port
 - multiple entry port
 - multi/poly-directional
- dual-element
- dynamic, such as:
 - moving coil
 - ribbon
- headset
- lapel
- low and/or high impedance
- microphone systems, such as:
 - adaptive array
 - binaural
 - high definition
 - parabolic
 - surround sound
 - wireless
 - cordless
 - FM
 - radio transmitter
- noise cancelling
- shotgun

- stage plans
- sound plots
- design, director's and sound specifications
- production and venue requirements
- production schedules
- OHS requirements and instructions
- manufacturer specifications
- performers' requirements
- fault report sheets.

Positioning microphones includes taking account of factors, such as:

- ensuring that safety procedures are followed
- organisational requirements
- production requirements
- ensuring optimum sound quality
- ensuring that cabling is mechanically sound and does not transmit vibration to microphones.

Microphone accessories include:

- boom poles, including:
 - aluminium
 - carbon fibre
 - fisher
 - hand-held
 - perambulator
 - remote panner
 - tripod
- cables, including:
 - balanced
 - unbalanced
- clips
- connectors, including:
 - female
 - male
 - XLR
- housing
- pop filters
- shock mounts
- stands, including:
 - desk
 - floor
 - gooseneck
- windscreens

Technical performance standards for lapel microphones include:

- ensuring that safety procedures are followed
- positioning and connecting aerial optimised pick-up
- choosing a transmitter frequency that minimises interference with nearby channels in the frequency band
- ensuring that transmitters have appropriate sensitivity
- rigging microphone within relevant constraints
- ensuring that connection of aerial and related cabling is secure
- ensuring that transmitter-receiver location is unobtrusive and comfortable for relevant personnel
- ensuring that transmitter-receiver location produces optimum output
- ensuring that interaction with relevant personnel is discreet, tactful and causes minimum disruption
- ensuring that items that may negatively affect
- ensuring that transmission is not present on relevant personnel

Mechanical safety considerations include:

- observing OHS requirements when installing and checking equipment
- checking that the position of microphones, mountings and other recording equipment is safe
- using safety chains
- laying cabling to avoid potential mechanical danger and to ensure safety

Electrical safety considerations include:

- following OHS procedures when setting up and checking electrical equipment
- checking that mains or generator supply is sufficient for maximum load requirements
- ensuring that cables used are accurately rated, including three-phase cable to dimmers
- laying cabling so that it does not obstruct the free movement of other equipment or endanger personnel
- ensuring that maintenance of cabling and connectors meets OHS requirements
- ensuring that all components of sound equipment are connected to the accurate voltage supply
- ensuring that distribution of electrical loading is within working limits
- ensuring that all electrical fittings are tested and tagged in accordance with

Production requirements include:

- purpose and style of production
- sound specifications
- venue or location requirements
- production schedule
- organisational policies and procedures
- legislative and/or organisational OHS requirements
- manufacturer specifications
- performers' requirements
- resource constraints
- length of the run of the production
- attributions
- audience
- budget
- confidentiality
- content
- contractual arrangements
- copyright
- deadlines
- direct quotes
- intellectual property
- interviews

safety regulations

Sound cues be required for:

- audience PA
- effects
- foldback to stage

Packing sound equipment involve:

- ensuring that containers are suitable for the storage and carriage of the equipment in a safe and secure manner
- ensuring that packing of hazardous items complies with current regulations
- labelling containers accurately and clearly
- checking containers for durability
- ensuring documentation for packed equipment is accurate and legible
- adhering to strict forward production timelines

Work environment include:

- dubbing suite
- on location, including interior and exterior
- outside broadcast
- post-production studio
- recording studio
- sound stage

Underpinning Knowledge & Skills

Candidates must know:

1. how to interpret and clarify written and verbal instructions
2. how to interpret block diagrams of equipment and system set-ups
3. how to read and interpret sound documentation
4. how to read manufacturing specifications and installation manuals
5. how to make verbal fault reports to appropriate personnel
6. how to work effectively in a team environment
7. how to apply critical-listening and aural-discrimination skills when setting up audio equipment
8. how to calculate duration and capacity of recording media
9. how to set up and disassemble audio equipment for playback, mixing and recording in line with manufacturer's manuals and OSH specifications
10. how to run and patch cables neatly and safely
11. how to test sound equipment in line with industry standards
12. how to prioritize work tasks and meet deadlines
13. how to identify typical faults and problems that may occur in audio-production environments
14. how to seek expert assistance when problems arise as well as apply problem solving skills
15. what are the range of microphones and contexts in which they are used
16. what are the characteristics of the microphone e.g., frequency response, sensitivity and polar patterns and how to optimize their operation for the sound required
17. what are the characteristics of sound in a range of environments
18. what is signal-to-noise ratio, signal phase and audio level/headroom control
19. how to identify audible defects in analogue and digital technologies
20. what are the characteristics of mixers, amplifiers, speakers and effects racks and how to optimize their operation for the sound required

21. what are the basic principles of acoustics, i.e., frequency, pitch, amplitude, loudness, velocity, wavelength, acoustical phase, sound absorption, timbre, sound envelope and how to apply them in the current context
22. how to apply knowledge of psychoacoustic principles, including, spatial hearing, direct sound, early sound, reverberant sound and room design
23. what are the techniques for installing, aligning and testing audio equipment
24. how to apply understanding of electrical power e.g. voltage, distribution, phasing, load and circuit breaking
25. how to apply knowledge of a range of sound equipment and associated operating principles e.g. level, impedance, phase and frequency
26. how to test and tag all electrical fittings in accordance with safety regulations
27. what issues and challenges typically arise in the context of setting up and disassembling audio equipment
28. how to apply principles of safe listening, such as safeguards against hearing loss
29. what are the relevant acts, regulation and codes of practice, especially in regard to OSH and Environmental issues, e.g. licensing requirements for persons performing high risk work, safe manual-handling techniques and working safely with electricity and hazardous substances

EVIDENCE GUIDE

1. Critical Aspects of Evidence

Evidence should include a demonstrated ability to:

- install and disassemble audio equipment on at least three occasions
- interpret sound plans
- test equipment in line with production requirements
- work cooperatively in a team environment
- apply OSH procedures, particularly in relation to working with electrical equipment and safe manual handling
- perform all tasks according to established procedures
- report problems according to established procedures

(2) Method of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. 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.

(3) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both on and off the job. 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 an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

CI00016: Follow health, safety and security procedures in the Creative Industries

Unit Descriptor:

This unit deals with the skills and knowledge required to follow health, safety and security procedures and applies to all individuals operating in the Creative Industries.

ELEMENTS

PERFORMANCE CRITERIA

Candidates must be able to:

- | | | |
|---|--|---|
| 1 | Follow occupational safety and health procedures | 1.1 Health and safety procedures are complied with in accordance with organisational policies and safety plans.
1.2 Breaches of health, safety and security procedures are identified and promptly reported to the appropriate parties.
1.3 It is ensured that all work activities are undertaken in a safe manner and do not present a hazard to others. |
| 2 | Deal with emergency situations | 2.1 Potential emergency situations are recognised and the required action is determined and taken within scope of individual responsibility
2.2 Emergency procedures are followed in accordance with organisational policies and procedures.
2.3 Assistance is promptly sought from colleagues and/or supervisors where appropriate
2.4 Details of emergency situations are accurately reported in accordance with organisational policies and procedures |
| 3 | Maintain personal safety standards | 3.1 Appropriate safety clothing, footwear and, where relevant, personal protection equipment are used to ensure own and others health and safety
3.2 Appropriate measures are undertaken to prevent injury or impairment related to workplace activities and to control workplace hazards.
3.3 Safe manual handling and lifting are carried out to avoid back strain and other injuries in accordance with the relevant safety policies and procedures
3.4 Accurate posture is maintained and ergonomics are consistently practiced in all work environments |

- | | | |
|---|-----|---|
| | 3.5 | Appropriate actions are taken that contributes to maintaining a safe and secure work environment |
| | 3.6 | The health and safety standards of music industry venues and equipment are complied with |
| 4 | | Take steps to minimise the potential risk of noise and loud music |
| | 4.1 | The risks for people exposed to excessive sound/noise levels and possible responses to such risks are identified. |
| | 4.2 | Methods of protecting hearing and the corresponding hearing protection devices are identified. |
| | 4.3 | Hearing protection devices are evaluated and the appropriate device is used accurately. |
| | 4.4 | A sound level meter is used at music industry venues to ensure appropriate sound level in accordance with health and safety procedures. |
| 5 | | Provide feedback on health, safety and security |
| | 5.1 | Occupational health and safety issues requiring attention are promptly identified. |
| | 5.2 | Occupational health and safety issues are raised with the designated person in accordance with organisation and legislative requirements. |

RANGE STATEMENT

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

Workplace hazards include:

- occupational overuse injury
- back injury
- hearing impairment
- stress
- performance anxiety
- electricity
- noise/sound level
- adverse weather/lighting conditions

Health, safety and security procedures include:

- emergency, fire and accident
- hazard identification and control
- safe sitting
- lifting and handling
- security of documents, cash, equipment, people
- key control systems
- safe use of equipment
- safe use of chemicals and toxic substances
- safe construction of rigs and supports

- safe sound/noise levels
- dealing with difficult customers

Measures to prevent injury or impairment include:

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

Relevant policies and procedures include:

- venue, studio or company policy
- legislative requirements

UNDERPINNING KNOWLEDGE AND SKILLS

Candidates must know:

1. what are the major safety requirements for the locations in which work is carried out
2. what are the major causes of accidents relevant to the work environment
3. what are the major hazards that exist in the workplace
4. how to follow emergency evacuation procedures
5. what are the symbols used for Occupational Safety and Health
6. how to identify designated personnel responsible for Occupational Safety and Health
7. what are noise control methods
8. what are posture requirements to avoid strain or injury
9. what are the relevant industry safety guidelines
10. what are the relevant national Occupational Safety and Health legislation and codes of practice
11. what are the major safety requirements for entertainment venues
12. what are the major causes of workplace accidents
13. how to identify workplace hazards
14. what are fire hazards and workplace fire hazard minimisation procedures
15. what are workplace safety, health and security procedures
16. how to write safety reports and safety implementation reports
17. how to follow health, safety and security procedures in the music industry
18. how to identify major causes of workplace accidents relevant to the work environment
19. how to identify and appropriately deal with security risks in the work environment

EVIDENCE GUIDE

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

(1) Critical Aspects of Evidence

Evidence should include a demonstrated ability to:

- follow established safety and security procedures and understand the implications of disregarding those procedures
- comply with Occupational Safety and Health regulations applicable to workplace operations
- adhere to industry guidelines and relevant legislative and insurance requirements
- demonstrate understanding of the legal requirement to work in accordance with health, safety and security procedures
- explain safety procedures to others and deal with emergency situations
- perform all tasks according to established procedures
- report problems according to established procedures

(2) Method of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. 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.

(3) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both on and off the job. 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 an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

CI00017: Communicate in the workplace

Unit Descriptor:

This unit deals with the skills and knowledge required to communicate in the workplace and applies to all individuals operating in the Creative Industries.

ELEMENTS

PERFORMANCE CRITERIA

Candidates must be able to:

- | | | |
|---|--|--|
| 1 | Gather, convey and receive instructions, information and ideas | 1.1 Verbal/written instructions received and responded to with accurate actions.

1.2 Information to achieve work responsibilities is collected from appropriate sources.

1.3 Input from internal and external sources is sought and used to develop and refine new ideas and approaches.

1.4 Instructions are accurately conveyed and work signage responded to with accurate action.

1.5 The method(s)/equipment used to communicate ideas, instructions and information is appropriate to the audience.

1.6 Effective listening and speaking skills are used in oral communication.

1.7 Instructions or enquiries are responded to promptly and in accordance with organisation's requirements.

1.8 Questions are used to gain extra information and clarification. |
| 2 | Carry out face-to-face routine communication | 2.1 Communications are conducted in an open, professional and friendly manner

2.2 Appropriate language and tone is used and the effect of personal body language is considered.

2.3 Active listening and questioning are used to ensure effective two-way communication

2.4 Cultural and social differences are identified and sensitivity to |

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

RANGE STATEMENT

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

Communication type include:

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

Information to achieve work responsibilities include:

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

Communication equipment include :

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

Oral communication include:

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

Workplace requirements be included in:

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

Written information include:

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

Correspondence include :

- memorandums
- messages
- proformas
- emails

Signage include:

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

- standard/form letters
- reports

Range of information sources include:

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

Standards include:

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

UNDERPINNING KNOWLEDGE AND SKILLS

Candidates must know:

1. what is the relevant legislation that affects workplace operations, especially in regard to Occupational Safety and Health and environmental issues, equal opportunity, industrial relations and anti-discrimination
2. what are the organisation's policies, plans, procedures and inter-departmental relationships
3. what are the principles of effective communication in relation to listening, questioning and non-verbal communication
4. how to communicate effectively, receive feedback and work with a team
5. how to plan and organise work priorities and arrangements
6. how to solve routine problems
7. how to use communication equipment
8. how to communicate and relate to people with diverse backgrounds
9. how to complete prescribed forms and prepare written reports in accordance with defined organisational protocols

EVIDENCE GUIDE

(1) Critical Aspects of Evidence

Evidence should include the ability to:

- use communication methods that are appropriate to the audience
- communicate and provide messages that are clear, concise and accurate
- respond to requests for information promptly
- provide information to clients in a clear and concise format
- complete relevant forms and written reports in accordance with workplace procedures

(2) Context of Assessment

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

Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, practical demonstration of tasks and functions and oral and written questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to a suitable venue and all 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.

(3) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both on and off the job. 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 an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

CI00018: Work with others
Unit Descriptor:

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

ELEMENTS
PERFORMANCE CRITERIA

Candidates must be able to:

- | | | |
|---|---|--|
| 1 | Participate in the work/group process | 1.1 The relevant work requirements for the group/process are accurately identified.
1.2 Personal role and role of each individual in meeting work requirements are accurately identified and personal role is performed to expectations.
1.3 Appropriate assistance is provided to other team members involved in the work group/process as required and constructive contributions are made to meeting work requirements.
1.4 Time and resource constraints are accounted for in planning for and fulfilling work requirements.
1.5 Work place activities are conducted in compliance with the organization's work policies, procedures and conventions covering acceptable workplace conduct.
1.6 Individual differences are taken into account when performing work activities to achieving work requirements.
1.7 Strengths of individuals are utilised to develop others in the group and the sharing of knowledge is incorporated in the group/process activities. |
| 2 | Contribute to the flow of information and ideas | 2.1 Work outcomes are enhanced by sharing information and ideas relevant to the work activity with others.
2.2 Information provided to others is relevant, timely and accurate
2.3 Information and ideas required to assist in the achievement of work requirements are sought from the appropriate persons when required.
2.4 Information is recorded in the required detail and in the specified format.
2.5 Relevant work information is systematically and accurately maintained and filed for easy retrieval.
2.6 Differences in languages and cultural differences in communication styles are identified and their impact on the work process is accounted for |

- | | | | |
|---|--|-----|--|
| 3 | Deal effectively with issues, problems and conflicts | 3.1 | Issues, problems and conflicts encountered in the work place are identified and assessed. |
| | | 3.2 | Issues, problems and conflicts are discussed with team members and solutions are suggested or they are referred to the appropriate person. |

RANGE STATEMENT

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

Working with others include:

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

Work requirements include:

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

Groups include:

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

Techniques to resolve issues, problems or conflicts include:

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

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

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

UNDERPINNING KNOWLEDGE AND SKILLS

Candidates must know:

1. what are individual roles and responsibilities and relationships to others

2. what are the techniques for managing personal work load such as meeting deadlines; acknowledging if tasks are beyond current capacity; handling tasks or problems as far as possible then referring to others as required
3. what is acceptable workplace conduct, including - regular attendance; punctuality; maintaining an orderly workspace, appropriate standards of personal presentation and hygiene; self-confidence and self-respect; acceptance of constructive criticism and a willingness for self-improvement; good humoured approach to others and adaptability and flexibility
4. what are team work principles
5. what are effective communication techniques
6. what are conflict resolution techniques
7. what are occupational safety and health principles
8. how to apply teamwork principles
9. how to communicate effectively
10. how to manage own work
11. how to work harmoniously with others
12. how to apply listening and questioning skills

EVIDENCE GUIDE

(1) Critical Aspects of Evidence

Evidence should include a demonstrated ability to:

- communicate effectively with others within the range of situations required for the job role
- provide ideas, lend assistance to others and resolve conflicts
- identify and fulfill personal role in work process and utilise the strengths of others
- deal effectively with resource and time constraints and personal differences
- prepare for and conduct work operations in accordance with procedures
- work effectively as part of a team
- use effective communication techniques, including active listening, questioning and non-verbal communication
- take responsibility for the quality of personal work
- perform all tasks in accordance with standard operating procedures
- use accepted techniques, practices, processes and workplace procedures

(2) Method of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. 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.

(3) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both on and off the job. 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 an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

CI00039: Perform emergency procedures in the workplace

Unit Descriptor:

This unit deals with the skills and knowledge required to provide assistance to others when emergency procedures are implemented. It describes the work expectations associated with carrying out procedures to minimize the risk of injury to oneself, others and premises.

ELEMENTS

PERFORMANCE CRITERIA

Candidates must be able to:

1	Maintain safe working area	1.1	Read emergency procedures documentation in order to perform emergency procedures safely and in the shortest possible time
		1.2	Identify location of emergency and safety equipment in the area according to company approved procedures
		1.3	Check that escape routes, emergency exits, access to emergency and safety equipment are kept clear
		1.4	Inform persons in the vicinity, of potential hazards and ensure that they are directed to safety according to established procedures
2	Follow emergency procedures	2.1	Contact appropriate personnel and emergency services promptly in the event of an emergency, following company approved procedures
		2.2	Take appropriate action to minimise injury and damage according to company approved procedures
		2.3	Carry out approved emergency and evacuation procedures when required according to approved procedures
		2.4	Record all emergencies and report to company approved personnel in a timely manner in accordance with company approved procedures

RANGE STATEMENT

Working area include:

- venue
- organization
- premises

Emergency and safety equipment include:

- basic fire fighting equipment
- safety harnesses
- hearing protection

- | | |
|--|--|
| <ul style="list-style-type: none"> • permanent place of work • temporary place of work <p>Emergencies, hazardous conditions include:</p> <ul style="list-style-type: none"> • natural disasters • explosions • fire • uncontrolled release of chemicals • toxic vapour <p>Emergency procedures documentation include:</p> <ul style="list-style-type: none"> • emergency procedure manual • evacuation procedure manual • site emergency plans | <ul style="list-style-type: none"> • breathing apparatus • safety gloves, shoes and boots <p>Reports include:</p> <ul style="list-style-type: none"> • Written • Verbal <p>Emergency procedure include:</p> <ul style="list-style-type: none"> • medical and first aid • fire fighting • evacuation |
|--|--|

UNDERPINNING KNOWLEDGE & SKILLS

Candidates must know:

1. how to deal with incidents and emergencies according to approved procedures
2. how to initiate alarm systems and access escape routes
3. how to use emergency procedure manual
4. how to use emergency equipment
5. how to contact emergency services promptly
6. what are the procedures and requirements for monitoring and controlling risks
7. what are the different types of security procedures for customers, artists and equipment/property

EVIDENCE GUIDE

(1) Critical Aspects of Evidence

Evidence should include a demonstrated ability to:

- recognize emergency situations and communicate promptly
- follow emergency procedures
- follow approved procedures for reporting emergencies
- report/take action to minimise injury and damage according to established procedures
- perform all tasks according to established procedures

(2) Method of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. 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.

(3) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both on and off the job. 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 an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

CI00015: Follow principles of Occupational Safety and Health (OSH) in the work environment

Unit Descriptor:

This unit deals with the skills and knowledge required to effectively perform work activities that conform to Occupational Safety and Health requirements. It describes the work expectations associated with following safe working practices, reporting workplace hazards and following emergency procedures.

ELEMENTS

PERFORMANCE CRITERIA

Candidates must be able to:

- | | | | |
|---|-----------------------------|-----|--|
| 1 | Follow safe work practices | 1.1 | Carry out work safely and in accordance with company policy, procedures and industry requirements |
| | | 1.2 | Complete housekeeping activities in accordance with company procedures and industry standards |
| | | 1.3 | Ensure that personal protective equipment is worn and stored according to company procedures |
| | | 1.4 | Use all equipment and safety devices according to legislative requirements and company/manufacturer's procedures/instructions |
| | | 1.5 | Identify and follow all safety signs/symbols as per instructions |
| | | 1.6 | Carry out manual handling in accordance with industry requirements, company procedures and Occupational Safety & Health guidelines |
| 2 | Report workplace hazards | 2.1 | Identify workplace hazards prior to the commencement of work and communicate to personnel according to standard operating procedures/legislation |
| | | 2.2 | Report all workplace hazards identified to appropriate personnel according to company procedures |
| 3 | Follow emergency procedures | 3.1 | Contact appropriate personnel and emergency services in the event of an accident, following company approved procedures |
| | | 3.2 | Carry out company's emergency and evacuation procedures when required |

RANGE STATEMENT

This Occupational Safety and Health (OSH) unit applies to safe working practices as applied to all workplaces. Competencies to be demonstrated must be associated with performance of duties and use of specialist skills according to related disciplines. This unit does not cover the skills of emergency teams such as fire fighting, first aid officer etc

Emergency procedures for equipment include:

- electrical
- mechanical
- hydraulic
- pneumatic
- emergency
- steam and water
- fuel

Quality Assurance requirements include:

- working environment/fellow workers
- adverse weather conditions
- protection of work personnel
- protection of public

Personal protection equipment include:

- breathing apparatus
- gloves
- eye protection
- footwear
- chemical suits
- escape respirators
- hearing Protection
- overalls
- safety helmet

Emergency procedures include:

- fire fighting
- medical and first aid
- evacuation

Conformance with legislative requirements include:

- National Legislation
- OSH
- Company approved procedures

Safety responsibilities include:

- personal protection
- equipment
- safe interactive work practices (duty of care)
- Occupational Safety and Health (OSH) Regulations
- Environmental and planning regulations/guidelines

UNDERPINNING KNOWLEDGE & SKILLS

Candidates must know:

1. what “hazards” and “risks” are
2. what are the particular health and safety hazards that exist in the workplace and the safe working practices (precautions) that employees must follow
3. what are the responsibilities and legal duties of employees for safety and health in the workplace

4. what are the relevant acts, regulations and codes of practice
5. what is the company policy
6. what are the emergency and evacuation procedures
7. how to use tools and equipment safely
8. how to select and use equipment according to industry standards
9. how to communicate effectively
10. what is the importance of dealing with, or promptly reporting, risks
11. what is the importance of remaining alert to the presence of hazards in the workplace
12. how to get additional safety and health assistance
13. what are the workplace instructions for dealing with risks employees are unable to deal with
14. what are the suppliers' and manufacturers' instructions for the safe use of equipment, materials and products
15. what is the importance of personal presentation in maintaining health and safety in the workplace
16. what are the risks to the environment that may be present in the workplace
17. what are the agencies and or organizations responsible for health and safety in the workplace

EVIDENCE GUIDE

(1) Critical Aspects of Evidence

Evidence should include a demonstrated ability to:

- comply with Occupational Safety and Health regulations applicable to workplace operations
- apply organisational policies and procedures including Quality Assurance requirements where applicable
- carry out accurate procedures prior to and during work activities
- use tools and equipment safely and effectively in accordance with manufacturers' instructions
- adhere to safety rules and procedures
- perform all tasks according to established procedures
- report problems according to established procedures
- follow environmentally-friendly working practices

(2) Method of Assessment

Assessors should gather a range of evidence, over a period of time, which is valid, sufficient and authentic. Evidence should be gathered through a variety of ways including direct observation, oral questioning, examination of portfolio, and simulation. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit competency. 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, manufacturer's specifications, codes, standards, manuals and reference materials.

(3) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both on and off the job. 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 an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

CI00040: Follow principles of environmental protection in the work environment

Unit Descriptor:

This unit deals with the skills and knowledge required for effectively performing work activities that conform to environmental protection requirements. It describes the work expectations associated with minimising risks to the environment.

ELEMENTS

PERFORMANCE CRITERIA

Candidates must be able to:

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|---|---|-----|---|
| 1 | Identify the risks and hazards to the environment | 1.1 | Inspect the work environment to identify environmental risks and hazards present in accordance with established procedures |
| | | 1.2 | Identify risk, hazard and consequence to the environment associated with the task or activity being undertaken |
| | | 1.3 | Perform risk assessment to determine the environmental risk level for the activity being undertaken |
| | | 1.4 | Identify and document any materials, products or equipment used in the workplace which could cause harm to the environment |
| | | 1.5 | Identify company personnel responsible for environmental matters in the workplace according to company approved procedures |
| 2 | Determine requirements for reducing level of environmental risk | 2.1 | Identify options available for reducing environmental risks according to organisational procedures |
| | | 2.2 | Select appropriate actions to reduce risks and hazards associated with the task or activity being undertaken, in accordance with legislative requirements |
| | | 2.3 | Determine effective emergency response required for the task or activity being undertaken, in accordance with company approved procedures |
| | | 2.4 | Document the summary of risk assessment for the task or activity and obtain required approvals in accordance with company approved procedures |
| | | 2.5 | Follow suppliers', manufacturers' and workplace instructions for the safe use and storage of materials, products and |

- equipment
- 2.6 Handle and dispose of materials and products that are hazardous to the environment in accordance with legislative requirements
 - 2.7 Report promptly to company approved personnel responsible for environmental matters the hazards which present high risks
 - 2.8 Complete all logs, required reports and workplace documentation in accordance with company approved procedures
- 3 Implement controls for reducing level of risk
 - 3.1 Implement controls for the task or activity in a timely manner using company approved procedures
 - 3.2 Verify effectiveness of controls for task or activity using established procedures
 - 4 Monitor controls for reducing level of risk
 - 4.1 Check that environmental levels of risk are reduced in accordance with legislative requirements
 - 4.2 Keep all stakeholders informed of actions and outcomes of environmental risk control, following standard operating procedures
 - 4.3 Determine any additional environmental risk associated with task or activity following company approved procedures
 - 4.4 Stop unsafe work if inadequate controls exist for managing levels of environmental risk, following standard operating procedure
 - 4.5 Develop additional controls to reduce additional levels of environmental risk identified, following company approved procedures
 - 4.6 Implement controls to reduce additional levels of risk in accordance with company approved procedures
 - 4.7 Document additional controls for reducing levels or risk, following company approved procedures

RANGE STATEMENT

Personal protection equipment include:

- hearing protection

Environmental risks and hazardous conditions include:

- Explosive materials

- head protection
- fire proof clothing
- gloves
- masks
- safety glasses
- breathing apparatus
- eye protection
- footwear
- chemical suits
- escape respirators
- overalls
- safety helmet
- Noise pollution
- Resource depletion
- Natural disasters
- Toxic vapour and liquid release
- Uncontrolled release of hydrocarbons/chemicals
- Injured person
- Disposal of batteries

Organisational and legislative requirements include:

- corporate and strategic plans
- company approved operational procedures
- environmental protection legislation
- legislation relevant to the organization
- organization's personnel practices and guidelines
- organization's quality standards

UNDERPINNING KNOWLEDGE & SKILLS

Candidates must know:

1. how to identify environmental risks in the workplace
2. what are the different types of environmental hazards and their effects on the workplace and personnel
3. what are the workplace requirements for handling and disposing of materials which can be hazardous to the environment
4. what are the current relevant legislation, regulations, codes of practice and guidelines relating to environmental protection in the workplace
5. what are organisational policies and procedures (such as relevant legislation; operational policies and procedures; organisational personnel and occupational health and safety practices and guidelines; organisational quality standards; organisation's approach to environmental management and sustainability)
6. what are the organisational procedures for dealing with risks employees are unable to deal with
7. what are the substances, products and processes categorized as hazardous to the environment
8. what are the workplace instructions, precautions and procedures relating to the control of environmental risks
9. what are the risk components of an environmental hazard including, likelihood, frequency and probability
10. how to use resources and materials effectively and efficiently
11. how to recognize available energy and hazard sources

12. how to communicate effectively
13. what are the various methods of environmental risk reduction
14. what are the appropriate and effective types of controls
15. how to recognize when an implemented control becomes ineffective
16. what are the protocols to follow to stop unsafe work regarding environmental risk management

EVIDENCE GUIDE

(1) Critical Aspects of Evidence

Evidence should include a demonstrated ability to:

- identify environmental risks and hazards in the workplace
- develop effective controls for reducing environmental risks and hazards
- implement controls in accordance with company approved procedures
- carry out all recording, reporting and documentation activities in accordance with established procedures
- follow approved procedures for reporting environmental risks
- work in compliance with policies and procedures

(2) Method of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. 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.

(3) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both on and off the job. 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 an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

CI00041: Manage the stage production

Unit Descriptor:

This unit describes the skills and knowledge required to coordinate all back-of-house services during the delivery of a live event.

ELEMENTS

Candidates must be able to:

PERFORMANCE CRITERIA

1	Oversee preparation of the production/event	<p>1.1 Identify and report potential problems that could impact on the smooth running of the production and inform relevant personnel as required</p> <p>1.2 Check that relevant personnel are present at the specified time and have completed any administrative procedures</p> <p>1.3 Conduct briefings with production and performance team, as required</p> <p>1.4 Supply performers with the relevant items and areas required for the production/event</p> <p>1.5 Verify that cast and crew valuables are secured according to organisational policy</p> <p>1.6 Communicate with relevant personnel to ensure that all technical pre-show checks are completed within the required timeframe and that required technical elements are operating</p> <p>1.7 Liaise with relevant personnel to complete other pre-performance requirements</p>
2	Coordinate the stage set-up	<p>2.1 Liaise with all stage production personnel and monitor work activities against relevant schedules</p> <p>2.2 Ensure all technical and performance personnel are present at the specified time</p> <p>2.3 Assess workflow and progress of set-up activities against timelines and initiate short-term action to resolve any problems in meeting the deadline</p>

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|---|---|-----|--|
| | | 2.4 | Communicate with the appropriate personnel to ensure that staging elements and equipment are arranged in accurate working order and in accordance with design specifications |
| | | 2.5 | Monitor the set-up to ensure that all occupational health and safety issues have been addressed in accordance with relevant legislation and organisational procedures |
| 3 | Run the production/event | 3.1 | Monitor production and performance elements and take appropriate action to resolve with minimum disruption to the production |
| | | 3.2 | Use reference materials appropriately to ensure the accurate and timely delivery of the production/event |
| | | 3.3 | Communicate any changes to the production promptly to all relevant personnel, ensuring all changes meet production standards |
| | | 3.4 | Ensure the movement of physical elements occurs in accordance with production schedule/running sheet and timing |
| 4 | Maintain working relations and communication with production and performance team | 4.1 | Provide appropriate briefings and materials to cast and crew prior to the performance |
| | | 4.2 | Liaise with cast and crew in a timely manner regarding any pre-performance requirements |
| | | 4.3 | Communicate with cast and crew regularly throughout the production in an open manner to maintain positive working relations |
| | | 4.4 | Provide clear instructions in a manner that is appropriate to the production requirements, ensuring that timing is maintained and precise |
| | | 4.5 | Communicate with personnel in a clear and concise manner to ensure efficient, safe and disciplined production practices |
| 5 | Finalize the performance/event | 5.1 | Accurately prepare post-performance documentation according to organisational procedures |
| | | 5.2 | Organize the clearance and cleaning of the production/event sites as required, including appropriate security, storage and disposal |
| | | 5.3 | Maintain required production facilities and stocks of consumables for use in future productions |
| | | 5.4 | Identify any repairs or maintenance required and take |

appropriate action

- 5.5 Identify the need for and make any necessary adjustments to production documentation to ensure consistency and quality of future performances

RANGE STATEMENT

Relevant personnel include:

- all technicians e.g. sound, lighting
- assistant stage manager
- choreographer
- designers
- director
- extras
- non-regular performers
- performers
- production manager
- staging personnel
- venue management

Performers include:

- actors
- conference speakers
- dancers
- extras
- masters of ceremony
- musicians
- non-regular performers
- panel members such as a debate team
- public speakers
- regular cast members
- singers
- special guests
- understudies

Items required for the performance include:

- costumes
- hand props
- make-up
- microphones e.g. radio microphones
- sound equipment (audio)
- lighting equipment

Productions include:

- circuses
- concerts
- dance performances
- festival performances
- live theatre
- musicals
- opera

Pre-performance requirements include:

- media calls
- photo calls
- wardrobe parade

Reference materials used to run the production/event include:

- call sheets
- cue sheets
- prompt sheets

Staging elements and equipment include:

- costumes
- prompting equipment
- props
- props table
- set pieces
- special effects

Production documentation include:

- agent lists, prop lists
- announcements
- artists' call sheet e.g. publicity call sheets
- calculations of performance timings
- contact list, address list

- stage management communication equipment
- stage management desk
- firearms log
- front of house information
- ground plans
- media schedule
- notes on operating equipment
- notification for production personnel
- performance schedule
- production schedule
- program inserts
- rehearsal schedule for non regular performers
- riders
- scenery list
- sign on sheets
- technical plots, e.g. fly plots, and dome plots
- texts
- time sheets
- understudy schedule
- understudy/covers list
- wardrobe list

Details in post performance documentation include:

- audience numbers
- audience reaction
- changes to performers
- comments on artistic or technical performance
- timings
- venue capacity

Relevant legislation include:

- Occupational Safety and Health (OSH)
- environmental issues
- industrial relations
- licensing arrangements
- relevant Statutory and Common law legislation which affect organisational operation
- quality assurance and certification requirements
- relevant industry codes of practice
- trade practices
- company approved procedures
- relevant national and international standards, guidelines and codes of practice

UNDERPINNING KNOWLEDGE & SKILLS

Candidates must know:

1. what are the artistic and technical elements of the production such as staging, lighting and sound elements
2. what are the key factors involved in the successful stage management of a production

3. how to recognize typical problems that may arise in a production and ways of addressing these
4. what are the key problems that may arise in the stage management of a production
5. how to contain or resolve problems quickly and discreetly
6. how to deal with effective communication, team leading and delegation in relation to the stage management of a production
7. how to effectively maintain working relations and communication with production and performance team /relevant personnel
8. what are the relevant occupational safety and health legislation and regulations as they apply to maintaining a safe backstage environment

EVIDENCE GUIDE

(1) Critical Aspects of Evidence

Evidence should include a demonstrated ability to:

- manage a range of tasks concurrently and in accordance with immediate time constraints
- communicate and delegate effectively
- deliver all aspects of the production/event
- perform all tasks according to established procedures
- perform all tasks in accordance with standard operating procedures
- perform all tasks to specification
- use accepted techniques, practices, processes and workplace procedures

(2) Method of Assessment

Assessors should gather a range of evidence, over a period of time, which is valid, sufficient and authentic. Evidence should be gathered through a variety of ways including direct observation of the stage management of a production/event for which the candidate is responsible, review of production schedules and other stage management reference material and reports prepared by the learner, review of reports prepared by the learner on the planning and implementation of the stage management of a production/event, review of portfolios of evidence, third party workplace reports as well as written and/or oral questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit competency. 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, manufacturer's specifications, codes, standards, manuals and reference materials

(3) Context of Assessment

This unit may be assessed on the job or off the job. Where assessment is done off the job, 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 working individually.

This unit could be assessed in conjunction with any other units applicable to the individual's work.

CI00042: Perform rigging

Unit Descriptor:

This unit specifies the requirements to perform basic rigging work associated with movement of plant and equipment, steel erections, hoists (including mast climbing hoists), placement of pre-cast concrete, safety nets and static lines and perimeter safety screens.

ELEMENTS

PERFORMANCE CRITERIA

Candidates must be able to:

- | | | |
|---|------------------------------|---|
| 1 | Plan Job | <ul style="list-style-type: none"> 1.1 Assess task according to approved procedures 1.2 Identify potential workplace hazards in accordance with Occupational Safety and Health (OSH) requirements 1.3 Identify hazard control measures consistent with appropriate standards to ensure the safety of personnel and equipment 1.4 Obtain site information according to established procedures 1.5 Consider all forces and loads associated with erecting and dismantling structures and associated plant in consultation with appropriate personnel 1.6 Identify rigging equipment and associated equipment in consultation with appropriate personnel according to established procedures and site information 1.7 Identify safety equipment according to OSH requirements 1.8 Identify appropriate communication methods with associated personnel |
| 2 | Select and inspect equipment | <ul style="list-style-type: none"> 2.1 Select and inspect rigging equipment and associated equipment according to established procedures and appropriate standards 2.2 Select and inspect safety equipment according to established procedures 2.3 Isolate, report and record all defective rigging equipment, associated equipment and safety equipment according to established procedures |

- 2.4 Select and inspect communication equipment for serviceability where applicable
- 3 Set up task
 - 3.1 Apply appropriate hazard prevention and control measures to the work area according to industry operating procedures
 - 3.2 Inspect and check ground suitability, where appropriate, according to workplace procedures
 - 3.3 Review, interpret and communicate site information to appropriate personnel and associated personnel
 - 3.4 Consult with appropriate personnel to determine all forces and loads associated with erecting and dismantling structures and associated plant
 - 3.5 Check that safety equipment are in place and operational according to manufacturer's specifications
 - 3.6 Position rigging equipment and associated plant for work application and stability according to established procedures
 - 3.7 Apply methods of temporary connections using fibre rope according to established procedures and the appropriate standards
- 4 Erect structures and plant
 - 4.1 Erect structures and associated plant according to approved procedures and site information.
 - 4.2 Maintain stability of structures and associated plant during erection according to industry approved procedures
 - 4.3 Conduct work safely at heights, including safe and effective use of safety equipment in accordance with OSH requirements
 - 4.4 Use appropriate communication methods and communication equipment to co-ordinate the tasks
 - 4.5 Use associated plant and rigging equipment according to established procedures
 - 4.6 Connect temporary guys, ties, propping and shoring, flexible steel wire rope and tubing where required according to established procedures
 - 4.7 Use associated equipment in a safe manner according to

		OSH requirements
	4.8	Inspect completed task according to approved industry procedure
	4.9	Remove excess material from the work area in accordance with workplace procedures
5	Dismantle structures and plant	5.1 Dismantle structures and associated plants in accordance with industry operating procedures and appropriate standards
	5.2	Conduct work safely at heights including safe and effective use of safety equipment in accordance with OSH requirements
	5.3	Maintain stability of structures and associated plant during dismantling according to industry approved procedures
	5.4	Inspect rigging equipment, safety equipment, associated equipment and associated plant for damage and defects according to established procedures
	5.5	Isolate all defective rigging equipment, associated equipment, associated plant and safety equipment according to workplace procedure
	5.6	Report and record all defective rigging equipment, associated equipment, associated plant and safety equipment according to workplace procedure
	5.7	Store rigging equipment and associated equipment according to approved procedures
	5.8	Remove hazard prevention and control measures, where appropriate, according to established procedure

RANGE STATEMENT

Hazards include:

- ground stability (e.g. ground condition, recently filled trenches, slopes)
 - overhead hazards (e.g. power lines, service pipes)
- (NB: minimum clearance distance from power lines or electrical equipment as determined by relevant state authority)

Temporary connections include:

- knots
- bends
- hitches
- spicing
- whipping

- or electrical supply authority.)
- traffic (e.g. pedestrians, vehicles, other plant)
- insufficient lighting
- environmental conditions (e.g. wind, lightning, storms)
- other specific hazards (e.g. dangerous materials).

Appropriate standards include:

- codes of practice
- legislation
- manufacture's specifications
- industry standards (where applicable)

Site information include:

- local conditions such as access and egress,
- work method statements,
- site specific job safety analyses and other site specific documentation as required.
- task plans / schedules and structural plans.

Forces and Loads include:

- dead loads
- live loads
- static load
- dynamic loads
- wind loads

Structures include:

- structural steel
- precast panels

Associated plant include:

- static lines
- safety nets
- hoists
- mast climbers
- loading platforms

Appropriate personnel include:

- engineers
- supervisors
- colleagues
- managers who are authorized to take responsibility for the workplace or operations

Rigging Equipment:

- scaffolds
- elevated work platforms
- personnel box
- cantilevered crane loading platforms
- mast climbers
- safety screens and shutters
- cranes including
 - non-slewing cranes
 - mobile slewing cranes
 - vehicle loading cranes
 - tower cranes
 - self-erecting cranes
 - portal boom cranes
 - derrick cranes
 - bridge and gantry cranes

Associated equipment include:

- all types of power and manually operated lifting gear
- fibre ropes
- flexible steel wire rope (FSWR)
- chains
- wire and synthetic slings
- shackles
- terminations
- wedge sockets
- eye bolts
- beam clamps
- plate clamps
- rope grips
- turnbuckles
- rigging screws
- chain blocks
- lever blocks

- lever-action winches
- sheaves
- spreader bars
- lifting beams
- jacks
- levers
- skates
- wedges
- rollers
- girder trolley

Procedures include:

- manufacturer's guidelines (instructions, specifications or checklists)
- industry operating procedures, relevant codes of practice
- workplace procedures (work instructions, operating procedures, checklists).

Safety Equipment include:

- safety harness
- energy absorber
- lanyard
- inertia reel
- static safety lines
- safety nets.

Communication methods include:

- verbal and non-verbal language
- written instructions
- signage
- hand signals
- listening,
- questioning to confirm understanding, and appropriate worksite protocol

Ground suitability include:

- rough uneven ground
- backfilled ground
- soft soils
- hard compacted soil
- rock
- bitumen
- concrete
- suspended concrete floors
- building roofs
- landings
- ground bearing pressure

N.B Mobile phones are not to be used for signalling purposes during the rigging process

Hazard prevention/control measures include:

- safety tags on electrical switches/isolators
- power lines are insulated
- safety observer used inside exclusion zone
- power disconnected
- traffic barricades and control
- pedestrian barricades
- trench covers
- movement of obstructions
- personal protective equipment
- adequate illumination
- safety shutters and screens.

Associated personnel include:

- other riggers
- doggers
- crane operators

UNDERPINNING KNOWLEDGE & SKILLS

Candidates must know:

1. how to erect and dismantle, level, plumb and stabilise associated plant and structures
2. how to calculate Safe Working Load (SWL) and Working Load Limit (WLL)
3. how to work safely at heights including the accurate application of safety equipment
4. how to accurately interpret basic structural charts and structural plans (site information)
5. how to apply methods for making temporary connections of ropes using fibre and synthetic types
6. how to identify FSWR, its uses and connections
7. how to apply methods of splicing and whipping fibre and synthetic ropes
8. how to apply and use of all rigging and associated equipment
9. how to conduct risk assessments
10. what are hazard control measures
11. how to apply the hierarchy of control (the six-step preference of control measures to manage and control risk - 1. elimination, 2. substitution, 3. isolation, 4. engineering control measures, 5. using safe work practices, 6. Personal Protective Equipment.)
12. what are communication methods and communication equipment
13. how to apply interpersonal and communication skills at a level sufficient to site/workplace requirements
14. what are the mathematical procedures for estimation and measurement of loads
15. how to interpret manufacturer's specifications for all plant and equipment used in rigging operations
16. what are the types and functions of rigging, safety and associated equipment including an understanding of their limitations.
17. what is "plant", "equipment" and "structural stability"
18. what are organisational and workplace standards, requirements, policies and procedures for rigging
19. how to apply an understanding of the hierarchy of hazard identification and control
20. what are the relevant government OSH legislation, standards and codes of practice for undertaking rigging activities
21. how to apply an understanding of inspection and maintenance requirements of a wide range of plant and equipment in line with manufacturer's specifications
22. how to estimate ground bearing pressures of the full range of soil types and associated ground conditions for setting up plant and equipment

EVIDENCE GUIDE

(1) Critical Aspects of Evidence

Evidence should include a demonstrated ability to:

- conduct risk assessment and management procedures
- comply with OSH legislation
- communicate and work safely with others in the work area
- exhibit the following knots, bends and hitches – Sheet bend, Becket hitch, Running bowline, Double bowline
- exhibit the following splices and whippings – Eye splice, Back splice, Short splice, Sail makers whipping, Common whipping, West countryman's
- perform all tasks according to established procedures

- perform all tasks to specification

(2) Method of Assessment

Assessors should gather a range of evidence, over a period of time, which is valid, sufficient and authentic. Evidence should be gathered through a variety of ways including direct observation and oral questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit competency. 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, manufacturer's specifications, codes, standards, manuals and reference materials.

(3) Context of Assessment

This unit may be assessed on the job or off the job. Where assessment is done off the job, 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 working individually

This unit could be assessed in conjunction with other units in the qualification.

CI00043: Communicate using a two way system

Unit Descriptor:

This unit describes the skills and knowledge required to effectively communicate using two-way communication devices on any production within the creative industries.

ELEMENTS		PERFORMANCE CRITERIA	
Candidates must be able to:			
1	Maintain and adjust communication equipment	1.1	Ensure that all talk back communication equipment is available at accurate location for use
		1.2	Clean and undertake any required maintenance on the equipment and ensure that it is operational
		1.3	Recognise faults and defects and take appropriate remedial action in accordance with manufacturer's instructions
		1.4	Ensure power supply is appropriate and available and that any battery powered equipment is charged in advance of use according to established procedures
		1.5	Adjust equipment to personal requirements to ensure incoming communications can be heard
		1.6	Adjust microphone to ensure that outgoing communications is clearly transmitted according to established procedures
		1.7	Verify comfortable usage of equipment according to approved procedures
2	Respond to incoming communications	2.1	Answer communications promptly, clearly and politely in accordance with industry procedures
		2.2	Establish the purpose of the communication and repeat details to the caller to confirm understanding according to workplace procedures
		2.3	Provide appropriate response to the caller, respond to request for action and confirm that it has been actioned
		2.4	Advise caller if there will be any delay in responding, and request the caller to stand-by for further communication according to established procedures
3	Make outgoing communication	3.1	Obtain and select accurate communication address in accordance with workplace procedures

- | | | |
|---|-----|--|
| | 3.2 | Establish purpose for communication prior to contacting the other party |
| | 3.3 | Use equipment to establish contact in accordance with established procedures |
| | 3.4 | Clearly communicate the intended message and request confirmation that message has been understood and necessary action has been taken |
| 4 | 4.1 | Use appropriate language, tone and volume
Speak at a volume and tone which allows other party to clearly hear the message according to established procedures |
| | 4.2 | Take steps to ensure that other people are not disturbed by volume of communications in accordance with organisational procedures |
| | 4.3 | Ensure that language is understood by the other party |
| | 4.4 | Ensure radio use is limited to authorized personnel |

RANGE STATEMENT

This unit applies to activities associated with the essential operations linked to communicating using a two-way system.

Documentation include:

- computer generated
- manually written
- in bar code format

Two way equipment include:

- headsets
- open speaker
- intercom
- table mounted microphones
- microphone attached to headset

Relevant personnel include:

- supervisor
- head of department
- technical director
- other technical staff
- other specialist staff
- floor manager
- station manager
- transmission operators
- presentation operators
- tape library personnel
- tape operators
- master control
- news editor

- producer
- editor
- tape editor

UNDERPINNING KNOWLEDGE & SKILLS

Candidates must know:

1. what are the general features and purpose of two-way equipment (e.g. headsets, open speaker, intercom, microphones)
2. how to select and use equipment appropriate to event location (e.g. outdoor venues, large stage, small stage, auditorium)
3. how to identify faults and defects e.g. broken components, malfunctions, missing parts
4. how to locate appropriate power sources at venues
5. why is it important to have back up/alternate power supplies
6. how to apply a working knowledge of a range of two-way communication systems
7. what are the possible consequences of inappropriate/unnecessary use of two-way communication systems
8. what are the workplace procedures for communication over a two-way system
9. what are the protocols to follow for communication with a range of personnel
10. how to apply effective and appropriate communication techniques

EVIDENCE GUIDE

(1) Critical Aspects of Evidence

Evidence should include a demonstrated ability to:

- communicate clearly and concisely
- use communication equipment accurately and safely according to approved procedures
- perform all tasks according to established procedures
- perform all tasks to specification
- use accepted techniques, practices, processes and workplace procedures

(2) Method of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. 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.

(3) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both on and off the job. 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 an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

CI00044: Set up and operate audio system control networks

Unit Descriptor:

This unit describes the skills and knowledge required to set-up a basic data network as it relates to remote control and distribution for DSP audio. It describes the work expectations associated with setting up and monitoring audio system control networks which include remote monitoring and control systems for amplifiers.

ELEMENTS		PERFORMANCE CRITERIA	
Candidates must be able to:			
1	Determine network requirements	1.1	Liaise with relevant stakeholders to establish system requirements according to established procedures
		1.2	Investigate available system resources and ascertain capabilities in accordance with workplace procedures
		1.3	Draw a system flow chart with all components in accurate order
		1.4	Allocate audio stage boxes where analogue audio is required according to approved procedures
		1.5	Determine audio schedules with allowance for preset system configurations and dynamic system changes in accordance with needs
2	Set up control network	2.1	Assemble relevant hardware components in accordance with system needs according to established procedures
		2.2	Assemble network topography in accordance with system needs
		2.3	Complete the interface with analogue audio as required according to approved procedures
3	Test and commission network	3.1	Test the network topography and resources to ensure accurate functioning
		3.2	Commission analogue audio components appropriately
		3.3	Activate and implement all DSP system presets
4	Monitor network	4.1	Crosscheck performance of amplifiers and loudspeakers in accordance with DSP system assignments
		4.2	Identify any problems with network, take appropriate action or report to relevant colleagues according to organisational procedures

RANGE STATEMENT

System requirements include:

- liaison with sound designer
- operational overview
- signal flow diagrams

Capabilities include:

- output signal routing options
- remote control of processing equipment

Hardware components include:

- amplifiers
- loudspeakers
- mixing consoles
- network control devices
- signal processors

UNDERPINNING KNOWLEDGE & SKILLS

Candidates must know:

1. how to apply problem solving and technology skills in the context of controlling wiring and audio routing options for a typical distributed audio control system
2. how to apply literacy skills sufficient to interpret audio data and draw system flow chart
3. how to apply numeracy skills sufficient to work with numerical data used in audio equipment
4. what is machine control, lighting control and other stage systems
5. what is MIDI, SMPTE and show-based protocols and control mediums
6. what are the terminology and definitions for digital systems and network control, including modern ethernet and RS 232 based systems
7. how to explain cues and their relationship to control networks
8. how to explain analogue forms of control and switching, versus digital control and networks
9. what is data transmission and error correction
10. how to explain data network distribution, network topologies, and basic network protocols
11. how to explain data communications, data interfacing, and interfacing with various common computer operating systems, including Windows and Macintosh
12. what are the basic principles of transmission, limitations, latency (processing time) and typical network performance
13. how to explain DSP processing, processor types and applications within control systems
14. what are proprietary audio transmission protocols, examples, and other kinds of full bandwidth audio transmission topologies

EVIDENCE GUIDE

(1) Critical Aspects of Evidence

Evidence should include a demonstrated ability to:

- apply an understanding of data interfacing and protocols

- configure audio networks to meet specific requirements
- perform all tasks according to established procedures

(2) Method of Assessment

Assessors should gather a range of evidence, over a period of time, which is valid, sufficient and authentic. Evidence should be gathered through a variety of ways including direct observation and oral questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit competency. 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, manufacturer's specifications, codes, standards, manuals and reference materials.

(3) Context of Assessment

This unit may be assessed on the job or off the job. Where assessment is done off the job, 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 working individually

This unit could be assessed in conjunction with other units in the qualification.

CI00045: Record sound on location

Unit Descriptor:

This unit describes the performance outcomes, skills and knowledge required to record sound on location for productions.

ELEMENTS		PERFORMANCE CRITERIA	
Candidates must be able to:			
1	Prepare for location recording	1.1	Confirm recording requirements in consultation with relevant personnel and with reference to scripts and other production documentation according to established procedures
		1.2	Check that sound equipment and accessories are in working order prior to shoots in accordance with workplace procedures
		1.3	Verify that an adequate supply of consumables is available for duration of sound recordings
2	Capture sound	2.1	Participate in technical run-throughs or rehearsals to determine optimum positioning of boom and microphone for recording shots according to industry approved procedures
		2.2	Rig sound equipment and accessories in line with safety, technical and production requirements
		2.3	Attach radio or clip microphones to actors' clothing as required
		2.4	Check that run-up time is sufficient and synchronisation codes are referenced to allow stable sound recording according to established procedures
		2.5	Move boom according to scripted shots and respond to direction in accordance with workplace procedures
		2.6	Follow the actions and anticipate movements of relevant personnel according to established procedures
		2.7	Ensure movement of boom is unobtrusive and sympathetic to actions of relevant personnel and does not generate unwanted noise according to industry approved procedures
		2.8	Monitor sound through headphones to ensure unwanted sounds are not being captured
		2.9	Communicate with relevant personnel with minimal disruption to operations according to workplace procedures
		2.10	Rectify equipment failures with minimal disruption to operations according to workplace procedures
3	Capture sound effects	3.1	Record background location sound for use in post-production
		3.2	Place multiple microphones in different positions to capture sound perspective of effects being recorded

		3.3	Listen critically to recorded sound and re-record as required to achieve desired effect
4	Finalise sound-recording operations	4.1	Save recordings in the appropriate format and log/file in line with organisational procedures
		4.2	Make safety copies or backups in line with organisational procedures
		4.3	De-rig, check and clean sound equipment and accessories
		4.4	Leave locations clean and restored to their pre-recording condition
		4.5	Evaluate own personal performance against technical and creative criteria and note areas for improvement

RANGE STATEMENT

Relevant personnel include:

- director
- producer
- director of photography
- production manager
- first assistant director (1 st AD)
- sound supervisor
- sound designer
- sound recordist
- boom operator
- sound engineer
- performer
- actor
- camera operator

Consumables include:

- CDs
- DVDs
- memory cards
- batteries
- masking tape, marker pens and labels
- cue sheets

Documentation include:

- production schedules
- scripts
- storyboards
- short lists.

Positioning include:

- ensuring that boom and microphone are out of the frame of the camera
- placing boom and microphone overhead
- miking from below
- mounting boom and microphone on a dolly
- determining movement of boom and microphone during recording of shots
- ensuring that position of the microphone, mounts, their shadows and reflections are as unobtrusive as possible
- ensuring that extraneous and unwanted noises are not captured
- ensuring that boom and microphone

are not safety hazards

Productions include:

- feature films
- documentaries
- short films and videos
- animation
- corporate videos
- training films and videos
- drama programs
- variety and lifestyle programs
- news and current affairs
- music videos
- recordings of live productions
- commercials
- print advertisements

Synchronization include:

- frame rates
- synchronising sound and picture on film, such as:
 - crystal
 - sync tones
 - slating
- time codes, such as:
 - longitudinal
 - SMPTE
 - vertical interval
 - MIDI
 - IEC standard
- time formats, such as:
 - real time
 - music time
 - film time
- transfers and dubs, such as:
 - analogue to digital audio
 - digital to digital audio
 - film transferring.

Unwanted sounds include:

- rustling from radio microphones
- wind noise
- hum or buzz
- distortion
- cable noise
- extraneous location noises, such as:
 - traffic
 - doors closing
 - electrical appliances.

Equipment and accessories include:

- hard disk recorders
- headphones
- batteries
- microphones, including:
 - dynamic
 - condenser
 - radio
 - omnidirectional
 - cardioid
 - hyper-cardioid
 - figure of eight
 - shotgun
- microphone accessories, including
 - tripod
 - windscreens
- boom pole, including:
 - aluminium
 - carbon fibre
 - fisher
 - hand-held
 - perambulator
 - remote panner
- cables, including:
 - balanced
 - unbalanced
- cable extensions
- clips

- connectors, including:
 - female
 - male
 - XLR
- housing
- pop filters
- shock mounts
- stands, including:
 - desk
 - floor
 - gooseneck
- amplifiers
- mixers
- speakers

UNDERPINNING KNOWLEDGE & SKILLS

Candidates must know:

1. how to work cooperatively with camera and lighting operators and others involved in film shoots
2. how to respond appropriately to requests from performers
3. how to treat performers sensitively and with respect when positioning microphones
4. how to calculate duration and capacity of recording media at various speeds/sample rates
5. how to maintain currency of knowledge of recording equipment upgrades
6. how to read and interpret scripts and production documentation
7. how to prioritize work tasks and meet deadlines
8. how to find creative solutions to sound recording challenges
9. how to demonstrate a precise attention to detail
10. how to apply critical-listening skills to sound recordings to identify faults in recording
11. how to promptly and effectively rectify equipment problems
12. how to comply with on-set protocols
13. how to work effectively under pressure
14. how to use a variety of sound – recording equipment
15. how to manage file structures to ensure compatibility with syncing and editing
16. how to make regular back ups
17. what are the roles and responsibilities of film and television production personnel
18. how to follow on-set protocols
19. how to apply a well developed understanding of how sound is used in film productions, including, the interrelationship of dialogue, sound effects and musical elements
20. what issues and challenges typically arise in the context of recording sound on location
21. what are the OSH principles of safe listening, including safeguards against hearing loss
22. what is picture and sound synchronization
23. how to create a sense of audio continuity
24. how to interact with camera and lighting crew

25. what are the principles of sound, in particular direct versus reflected sound, and sound perspective
26. what are the operational principles of microphones, including microphone placement
27. what are the operational/technical limitations of recording media
28. what are acceptable compromises when it comes to the quality of captured sound
29. what is the potential for parallax errors when operating side-on to the sound source
30. what are cues and how to respond to them
31. how to explain recording formats and technical standards
32. what are timecode levels and standards in analogue and digital applications

EVIDENCE GUIDE

(1) Critical Aspects of Evidence

Evidence should include a demonstrated ability to:

- record dialogue using a boom pole for at least two productions
- record live sound effects on location
- work cooperatively in a team environment
- meet deadlines
- observe safety guidelines on set
- perform all tasks according to established procedures

(2) Method of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. 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.

(3) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both on and off the job. 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 an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

CI00046: Craft personal entrepreneurial strategy

Unit Descriptor:

This unit deals with the skills and knowledge required to craft an entrepreneurial strategy that fits with the attitudes, behaviors, management competencies and experience necessary for entrepreneurs to meet the requirements and demands of a specific opportunity.

ELEMENTS

PERFORMANCE CRITERIA

Candidates must be able to:

1	Demonstrate knowledge of the nature of entrepreneurship	1.1	Concepts associated with entrepreneurship are clearly defined
		1.2	Factors which influence entrepreneurship in and outside of the country are accurately identified and explained
		1.3	The importance of entrepreneurship to economic development and employment is explained clearly
		1.4	The findings of research conducted on entrepreneurial ventures and successes in the Caribbean region are clearly presented in an appropriate format.
		1.5	Differences between wage employment and entrepreneurial ventures are accurately stated.
2	Identify and assess entrepreneurial characteristics	2.1	Relevant research is carried out and required entrepreneurial characteristics identified.
		2.2	Entrepreneurial characteristics identified are assessed and ranked.
		2.3	An understanding of the process and discipline that enable an individual to evaluate and shape choices and to initiate effective action is accurately demonstrated
		2.4	Factors that will help an entrepreneur to manage the risk and uncertainties of the future, while maintaining a future orientated frame of mind, are identified.
3	Develop self-assessment profile	3.1	Self-assessment tools/methods to identify personal entrepreneurial potential are identified and properly used.
		3.2	The ability to apply creativity, problem-solving techniques and principles to solve business related

- problems are demonstrated.
- 3.3 Feedback from others for the purpose of becoming aware of blind spots and for reinforcing or changing existing perceptions of strengths/ weaknesses is appropriately obtained.
- 4 Craft an entrepreneurial strategy
- 4.1 A profile of the past that includes accomplishments and preferences in terms of life and work styles, coupled with a look into the future and an identification of what one would like to do is developed.
- 4.2 Commitment, determination and perseverance; orientation towards goals; taking initiative and accepting personal responsibility; recognizing management competencies and identifying areas for development are determined
- 4.3 Written guidelines to obtain feedback that is solicited, honest, straightforward, and helpful but not all positive or negative are developed to facilitate reviews.
- 4.4 Framework and process for setting goals which demand time, self-discipline, commitment, dedication and practice are developed.
- 4.5 Goals established are specific and concrete, measurable, relate to time, realistic and attainable
- 4.6 Priorities, including identifying conflicts and trade-offs and how these may be resolved are established.
- 4.7 Potential problems, obstacles and risks in meeting goals are identified.
- 4.8 Specified action steps that are to be performed in order to accomplish goals are identified.
- 4.9 The method by which results will be measured is indicated
- 4.10 Milestones for reviewing progress and tying these to specific dates on a calendar are established
- 4.11 Sources of help to obtain resources are identified
- 4.12 Evidence of the ability to review process and periodically revise goals is demonstrated

RANGE STATEMENT

Concepts include:

- risk
- entrepreneurship
- macro-screening

Influencing factors include:

- market conditions
- markets – demand/supply
- global trends

- micro-screening
- competition
- wage employment
- level of economic activities
- funding
- economic stability
- social stability
- resources availability

Pitfalls include:

- proceeding without effective planning which may result in commitment to uncertainty
- commitment to a premature path with the desirability of flexibility can lead to disaster
- personal plans fail for the same reasons as business plans including frustration if the plan appears not to be working immediately and the challenges of changing behaviour from an activity oriented routine to one that is goal oriented
- developing plans that fail to anticipate
- obstacles, and those that lack
- progress milestones and review

UNDERPINNING KNOWLEDGE AND SKILLS

Candidates must know:

1. what are the personal entrepreneurial profile systems
2. what are effective management systems: marketing, operations/productions, finance, law, administration
3. how to measure feedback
4. what methods are used for developing a personal plan and a business plan
5. what is the difference between entrepreneurial culture and management culture
6. how to determine barriers to entrepreneurship
7. how to minimize exposure to risk
8. how to exploit any available resource pool
9. how to tailor reward systems to meet a particular situation
10. how to effectively plan and execute activities
11. how to use computer technology to undertake assessments

EVIDENCE GUIDE

(1) Critical Aspects of Evidence

Evidence should include a demonstrated ability to:

- develop an orchestrated plan in order to effectively pursue the business concept
- perform all tasks according to established procedures
- report problems according to established procedures

(2) Method of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. 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

(4) Context of Assessment

This unit may be assessed on the job, off the job or a combination of both on and off the job. 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 an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate