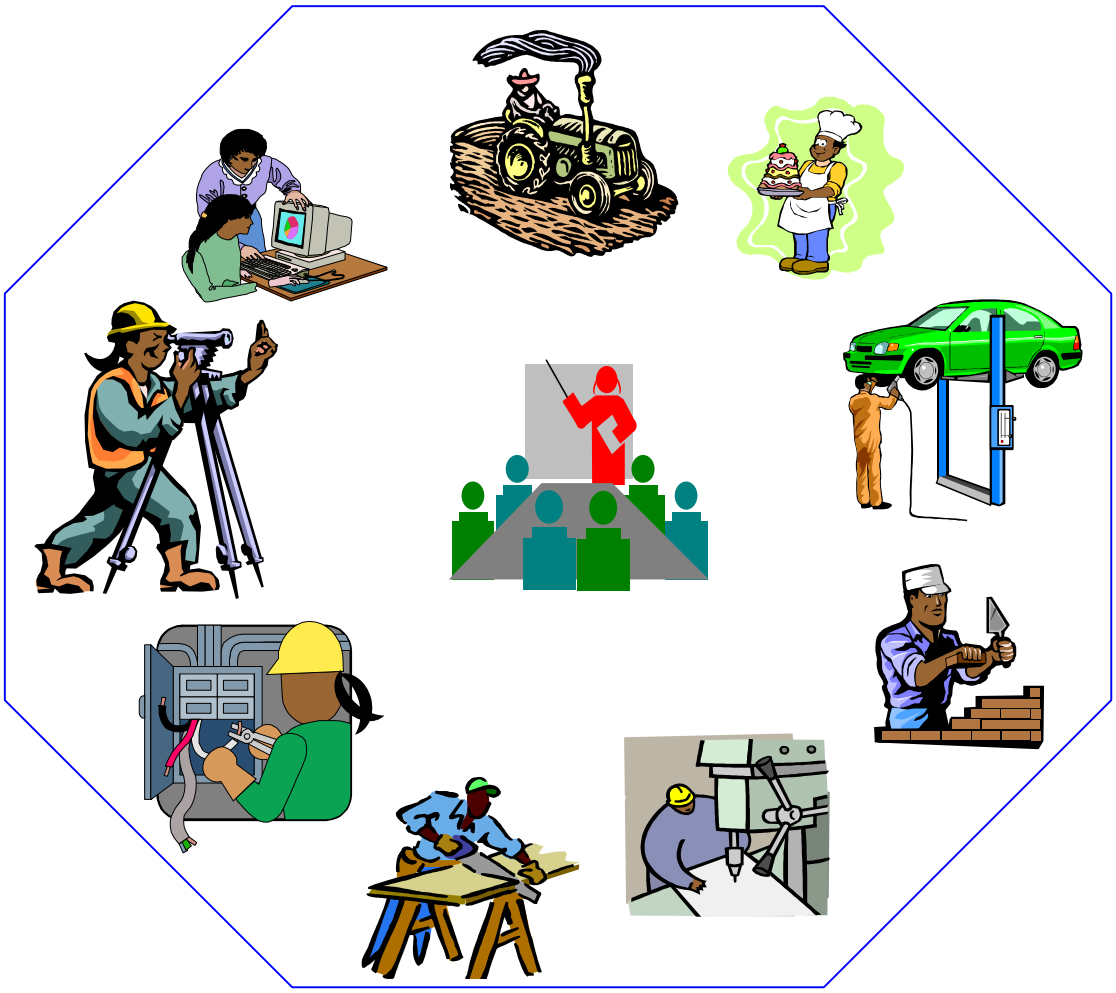
Federal Democratic Republic of Ethiopia

OCCUPATIONAL STANDARD

POWER LINE WORKS SUPPORT

NTQF Level I



Ministry of Education

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Introduction

Ethiopia has embarked on a process of reforming its TVET-System. Within the policies and strategies of the Ethiopian Government, technology transformation – by using international standards and international best practices as the basis, and, adopting, adapting and verifying them in the Ethiopian context – is a pivotal element. TVET is given an important role with regard to technology transfer. The new paradigm in the outcome-based TVET system is the orientation at the current and anticipated future demand of the economy and the labor market.

The Ethiopia Occupational Standards (EOS) is the core element of the Ethiopian National TVET Strategy and an important factor within the context of the National TVET Qualification Framework (NTQF). They are national Ethiopian standards, which define the occupational requirements and expected outcome related to a specific occupation without taking TVET delivery into account.

This document details the mandatory format, sequencing, wording and layout for the Ethiopia Occupational Standard which comprised of Units of Competence.

A Unit of Competence describes a distinct work activity. It is documented in a standard format that comprises:

- Occupational title and NTQF level
- Unit title
- Unit code
- Unit descriptor
- Elements and Performance criteria
- Variables and Range statement
- Evidence guide

Together all the parts of a Unit of Competence guide the assessor in determining whether the candidate is competent.

The ensuing sections of this EOS document comprise a description of the occupation with all the key components of a Unit of Competence:

- chart with an overview of all Units of Competence for the respective level (Unit of Competence Chart) including the Unit Codes and the Unit Titles
- contents of each Unit of Competence (competence standard)
- occupational map providing the technical and vocational education and training (TVET) providers with information and important requirements to consider when designing training programs for this standards and for the individual, a career path

UNIT OF COMPETENCE CHART

Occupational Standard: Power Line Works Support

Occupational Code: EIS LWS

NTQF Level I

EIS LWS1 01 0612 Apply OHS Practices in the Workplace	EIS LWS1 02 0612 Comply with Environmental and Incidence Response Procedures	EIS LWS1 03 0612 Work Safely near Live Electrical Apparatus as Non Electrical Worker
EIS LWS1 04 0612 Operate Vegetation Control Plant, Machinery and Equipment near Live Electrical Apparatus	EIS LWS1 05 0612 Plan for the Removal of Vegetation up to Vegetation Exclusion Zone near Live Electrical Apparatus	EIS LWS1 06 0612 Monitor Safety Compliance for Vegetation Work near Live Electrical Apparatus
EIS LWS1 07 0612 Cut Vegetation above Ground outside Live Work Zone near Live Electrical Apparatus (Climbing and Platform)	EIS LWS1 08 0612 Cut Vegetation at Ground Level outside 'Vegetation Exclusion Zone' Near Live Electrical Apparatus	EIS LWS1 09 0612 Use Safely Elevating Work Platform (EWP) near Live Electrical Apparatus
EIS LWS1 10 0612 Erect Transmission Towers	EIS LWS1 11 0612 Load and Unload Competition Vehicle and Support Equipment	EIS LWS1 12 0612 Spread and Compact Materials Manually
EIS LWS1 13 0612 Provide Basic First Aid	EIS LWS1 14 0612 Demonstrate Work Values	EIS LWS1 15 0612 Receive and Respond to Workplace Communication
EIS LWS1 16 0612 Apply Quality Standards	EIS LWS1 17 0612 Work with Others	EIS LWS1 18 0612 Develop Understanding of Entrepreneurship
EIS LWS1 19 1012 Apply 5S Procedures		

Occupational Standard: Power Line Works Support Level I	
Unit Title	**Apply OHS Practices in the Workplace**
Unit Code	**EIS LWS1 01 0612**
Unit Descriptor	This unit specifies the mandatory requirements of occupational health and safety and how they apply to the various electro technology work functions. It encompasses responsibilities for health and safety, risk management processes at all operative levels and adherence to safety practices as part of the normal way of doing work.

Elements	Performance Criteria
1. Prepare to enter a work area	1.1 Instruction in hazards and risk control measures for specific work functions and work areas are identified and obtained. 1.2 Work area access permits are obtained from appropriate personnel according to established procedures. 1.3 Preparations for electrical and non-electrical isolation are carried out to prevent creation of hazards from loss of machine/system/process control according to established procedures. 1.4 Tools and equipment needed for the work are checked for safety and correct functionality according to established procedures and regulatory requirements.
2. Apply safe working practices	2.1 Workplace procedures and work instructions for controlling risk are followed accurately. 2.2 Workplace procedures for dealing with accidents, fires and emergencies are followed according to work procedures and scope of responsibility and competencies.
3. Follow workplace procedures for hazard identification and risk control	3.1 Hazards are identified and control measures implemented and monitored through active participation in the consultation process with employer and other employees. 3.2 Hazards in the work area are recognized and reported to appropriate personnel according to established procedures. 3.3 ***OHS*** records of incidents are completed in accordance with regulatory requirements and established procedures. 3.4 Workplace instructions and training are followed accurately within established procedures.

Variable	Range
Apply OHS Practices in the Workplace shall be demonstrated in relation to:	• Relevant Occupational Health and Safety legislation, regulations and codes of practice related to hazards present in the industry and particular workplace • Accepted industry work procedures and the specific safety procedures and work instructions for particular workplace.

Evidence Guide	

Critical Aspects of Competence	Assessment requires evidence that the candidate able to:
	• Implement Occupational Health and Safety workplace procedures and practices, including the use of risk control measures encompassing:
	• Apply sustainable energy principles and practices
	• Conduct work observing the relevant Anti Discrimination legislation, regulations, polices and workplace procedures
	• Apply OHS practices in the workplace and including:
	  • Preparing to enter the workplace including, the use of work permits and clearances and isolation permissions.
	  • Applying work procedures and instructions as they apply to risk control measures.
	  • Dealing with accidents and emergencies within the scope of responsibility.
	  • Participation in consultation processes, identifying hazards and implementing and monitoring control measures
	  • Dealing with unplanned events by drawing on essential knowledge and skills to provide appropriate solutions.

Underpinning Knowledge and Attitudes	Demonstrates knowledge of:
	• Occupational Health and Safety principles
	  • The basic legal requirements covering occupational health and safety in the workplace encompassing:
	  • general aims and objectives of the relevant legislation relating to OHS
	  • employer and employee responsibilities, rights and obligations
	  • major functions of safety committees and representatives
	  • powers give to Occupational Health and Safety Inspectors
	  • The requirements for personal safety in the workplace encompassing:
	  • the safety precautions that are required to ensure personal safety in the workplace
	  • potential hazards in relation to improper industrial housekeeping
	  • sources of pollution in an engineering environment

	and outline control measures • Emergency first aid for an electric shock victim Note: Emergency first aid is limited to first-on-the scene assistance to a victim of electric shock, and basics of CPR.

Underpinning Skills	Demonstrates skills to:
	• Occupational Health and Safety principles
	  • Working safely with electrical tools or equipment encompassing:
	  • causes of electrical accidents and state the effects that electric shock can cause
	  • purpose of circuit protection devices, such as fuses, circuit breakers and Residual Current Devices (RCDs)
	  • safe isolation of an electrical supply
	  • Workplace safety check, identifying potential workplace hazards and suggested measures for accident prevention encompassing:
	  • safety checklist for a typical workplace environment
	  • identifying and reporting potential workplace hazards
	  • methods of prevention of safety hazards within a typical workplace environment
	  • emergency procedures for the rescue of an electric shock victim equipment
	  • Safe working practices and applying OHS practices in the workplace
	  • Occupational Health and Safety principles

Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Power Line Works Support Level I	
Unit Title	**Comply with Environmental and Incidence Response Procedures**
Unit Code	**EIS LWS1 02 0612**
Unit Descriptor	This unit covers the compliance of environmental and incidental response procedures whilst undertaking tasks in the Electricity Supply Industry workplace and refers to relevant legislation, codes and practices and established procedures. The Competence standard refers to compliance with relevant sections of Federal and Regional OHS and Environmental Protection Acts/Directives. The checking of plant and equipment should be performed through visual and mechanical checks. The plant and equipment used is that typically used in preparing worksites and compliance with environmental policies and procedures. Relevant regulations and procedures are referred to, but not limited to, the worksite and the use of plant; machinery/equipment; cleaning materials and aids; equipment operation; personal protective equipment e.g. safety boots, eye and ear protection, safety helmets.

Elements	Performance Criteria
1. Prepare to comply with environmental and incident response procedures	1.1 Work instructions are received and confirmed. 1.2 Relevant requirements and established procedures to be followed for the work to be performed are discussed with all persons to establish and confirm the work schedule. 1.3 OHS and environmental policies and procedures to be followed for the work to be performed are received and confirmed. 1.4 Suggestions to assist with complying with environmental and incident response procedures are made to others involved in the work. 1.5 Hazards are identified; OHS risks assessed and emergency exits kept clear according to given instructions and established procedures. 1.6 Scope of responsibility under any relevant work permits is received and confirmed according to requirements and established procedures with relevant persons. 1.7 Resources including environmental compliance personal protective equipment required for the incident are obtained and in working order according to established procedures. 1.8 Relevant responsibilities associated with first aid and other related work safety procedures at the worksite are confirmed in accordance with requirements and

	established procedures to ensure safety measures are followed in the instance of an incident. 1.9 Client issues are referred to appropriate persons in accordance with industry and community standards. 1.10 Site is reviewed according to given instructions and the work schedule for a quality outcome and to minimize risk and damage to property, commerce and individuals in accordance with established procedures. 1.11 Road signs, barriers and warning devices are positioned in accordance with requirements.
2. Carry out compliance with environmental and incident response procedures	2.1 OHS and sustainable energy principles and practices to reduce the incidents of accidents and minimize waste are followed in accordance with given instructions, requirements and/or established procedures. 2.2 Environmental requirements for the work are mentioned, reviewed and control measures, recommended for inclusion in the work process. 2.3 Any environmental incidents and potential problems are referred to appropriate persons in accordance with established procedures. 2.4 Lifting, climbing, working in confined spaces and or aloft, and use of power tools, techniques and practices are safely followed in accordance with given instructions and according to requirements confirmed to eliminate the prospects of incidents. 2.5 Operational knowledge for compliance with environmental and incident response procedures is confirmed to ensure completion in an agreed timeframe and to quality standards with a minimum of waste according to requirements and established procedures. 2.6 Complying with environmental and incident response procedures is carried out in accordance with given instructions and established procedures. 2.7 Hazard warnings and safety signs are recognized and hazards and assessed OHS risks are reported to the immediate authorized persons for directions according to established procedures. 2.8 Non-routine events are referred to the immediate authorized persons for directions according to established procedures. 2.9 Problems associated with complying with environmental and incident response procedures are dealt with using acquired known solutions and skills related to routine procedures to ensure work instructions and established

	procedures are met. 2.10 Ongoing checks of quality of the work are undertaken in accordance with given instructions and established procedures.
3. Complete the compliance with environmental and incident response procedures	3.1 Work undertaken is checked against work schedule and anomalies reported to authorized persons in accordance with established procedures. 3.2 Accidents and incidents are reported to authorized persons in accordance with established procedures. 3.3 Work site is rehabilitated, cleaned up and made safe in accordance with given instructions and established procedures. 3.4 Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures. 3.5 Appropriate persons are notified of work completion according to established procedures. 3.6 Environmental completion records, report forms/data sheets are completed accurately in accordance with given instructions and established procedures.

Variable	**Range**
The following constants and variables included in this unit:	• Appropriate and relevant persons (see Personnel) • Appropriate authorities • Appropriate work platform • Assessing risk • Authorization • Confined space • Documenting detail work events, record keeping and or storage of information • Drawings and specifications • Emergency • Environmental and sustainable energy procedures • Environmental legislation • Established procedures • Fall prevention • Hazards • Identifying hazards • Legislation • MSDS • Notification • OHS practices • OHS issues

	• Permits and/or permits to work • Personnel • Quality assurance systems • Requirements

Evidence Guide	
Critical Aspects of Competence	Assessment requires evidence that the candidate able to: • Implement Occupational Health and Safety workplace procedures and practices, including the use of risk control measures encompassing: • Apply sustainable energy principles and practices • Conduct work observing the relevant Anti Discrimination legislation, regulations, polices and workplace procedures

Underpinning Knowledge and Attitudes	Demonstrates knowledge of:
	• Occupational Health and Safety principles:
	  • The basic legal requirements covering occupational health and safety in the workplace encompassing:
	  • general aims and objectives of the relevant legislation relating to OHS
	  • employer and employee responsibilities, rights and obligations
	  • major functions of safety committees and representatives
	  • powers give to Occupational Health and Safety Inspectors
	  • The requirements for personal safety in the workplace encompassing:
	  • the safety precautions that are required to ensure personal safety in the workplace
	  • potential hazards in relation to improper industrial housekeeping
	  • sources of pollution in an engineering environment and outline control measures
	  • c) Emergency First Aid for an electric shock victim
	Note: Emergency First Aid is limited to first-on-the scene assistance to a victim of electric shock, and basics of CPR.
	• Occupational Health and Safety, enterprise responsibilities:
	Evidence shall show an understanding of OHS enterprise responsibilities to an extent indicated by the following aspects:
	• Provisions of relevant health and safety legislation
	• Principles and practice of effective occupational health and safety management

	• Management arrangements relating to regulatory compliance • Enterprise hazards and risks, control measures and relevant expertise required • Characteristics and composition of workforce and their impact on occupational health and safety management • Relevance of enterprise management systems to occupational health and safety management • Analysis of working environment and design of appropriate occupational health and safety management systems • Analysis of relevant data and evaluation of occupational health and safety system effectiveness • Assess resources to establish and maintain occupational health and safety management systems. • Environmental fundamentals Evidence shall show an understanding of the environmental fundamentals to an extent indicated by the following aspects: • Environmental standards, codes, environmental legislation, supply authority regulations and or enterprise requirements applicable to the control of environment associated with the worksite encompassing: • Relevant federal legislation • Relevant legislation • Relevant local government by-laws • Relevant government or quasi government policies and regulations • Relevant community planning and development agreements Note: Examples include land care agreements • Employer and employee responsibilities • Methods of obtaining information on environmental issues and updates • Methods of identifying environmental impacts from work related activities • Meaning of environmental terms encompassing: • Identification, assessment and control of risks • Compliance • Best practice • Sustainable energy • Procedures in implementing management plans to ensure compliance

	• Enterprise specific — policy and procedure instructions
	Evidence shall show an understanding of the enterprise specific policies and procedures to an extent indicated by the following aspects:
	• Responsibilities and duty of care of employer and employee relationship
	• Methods of obtaining the up-to-date information on enterprise policy and procedures
	• Rules and regulations
	• Induction into workplace encompassing:
	  • Location of work area and storage area
	  • Timetable
	  • Uniform
	  • Personal well-being
	  • Housekeeping rules
	  • Emergency procedures
	  • Evacuation procedures
	• Techniques when deal with others encompassing:
	  • Working in teams
	  • Customer relation
	• Complaint and issues procedures
	• Overview of enterprise professional development available encompassing:
	  • Fire fighting procedures
	  • Fatigue management
	• Training and Competence development - understanding and promotion
	• Enterprises specific — OHS instructions
	Evidence shall show an understanding of the enterprise specific Occupational Health and Safety rules, regulations, policies and procedures to an extent indicated by the following aspects:
	• Standards, codes, legislation, supply authority regulations and specific enterprise regulations pertaining to the OHS policies and procedures
	• Methods of obtaining the up-to-date information on enterprise OHS policy and procedures
	• Specific enterprise personal protection equipment encompassing:
	  • Type and application
	  • Where and when to be used

	• Method of replacement • Responsibility of maintenance including cleaning inspection and testing • Emergency response, rescue, evacuation and First Aid procedures • Personal well-being encompassing: • Hygiene • Fatigue/stress management • Drugs/alcohol • OHS training encompassing: • Induction training • Specific hazard training • Specific task or equipment training • Emergency and evacuation training • Training as part of broader programs such as equipment operation • OHS records including audits, inspection reports, workplace health and environmental monitoring records, training and instruction records, manufacturers and suppliers information such as MSDSs, registers, maintenance reports, workers compensation and rehabilitation records and First Aid/medical records
Underpinning Skills	Demonstrates skills to: • Electrical safe working practice: • Risk management and assessment of risk encompassing: • Principle and purpose of risk management • Processes for conducting a risk assessment • Hazards associated with low-voltage, extra-low voltage and high-currents encompassing: • Arrangement of power distribution and circuits in an electrical installations • Parts of an electrical system and equipment that operate at low-voltage and extra-low voltage • Parts of an electrical system and equipment where high-currents are likely. • Risks and control measures associated with high-voltage encompassing: • Parts of an electrical system and equipment that operate at high-voltage, • The terms ‘touch voltage’, ‘step voltage’, ‘induced voltage’ and ‘creep age’ as they relate to the hazards

	of high-voltage • Control measures used for dealing with the hazards of high-voltage • Optical fiber safety encompassing: • Coherent optical sources and joining procedures • Laser safety class 3a devices or their replacement • e) Risks and control measures associated with low voltage encompassing: • Risks associated with modifying electrical installations, fault finding, maintenance and repair • Control measures before, while and after working on electrical installations, circuits or equipment • Isolation and tagging-off procedures • Risks and restrictions in working live • Control measures for working live • Risks and control measures associated with harmful dusts and airborne contaminants. Note: Sources include thermal insulation, fibrous cement materials and asbestos and other fiber reinforced switchboard materials. • Safety, selection, use, maintenance and care of test equipment encompassing: • Safety characteristics of electrical testing devices • Safe use of electrical testing device • Checks and storage methods for maintaining the safety of testing devices • Protective apparatus and apparel for line work Note: Examples include responsibilities for the selection, use, maintenance and storage of protective apparatus and apparel and the types of protective apparatus and apparel used for the line worker • Requirements for the use of ladders Note: Examples include practical demonstration of carrying, erecting, collapsing and lowering different types of extension ladder against a standing pole, maintenance checks on different types of ladders, renewal of extension ropes and the safety issues relating to clearances from overhead conductors • Requirements for climbing and working aloft Note: Examples include methods used to identify a pole is safe to climb, methods used to inspect a line worker's body belt, application of knots and hitches appropriate to the requirements of a line worker, height safety principles including personal fall protection, prevention and related

	requirements, and the practical procedure of climbing an overhead structure and fitting a pole chair • Traffic management Note: Examples include purpose of traffic management and a line worker's responsibilities in accordance with relevant statutory requirements and electricity supply industry requirements, demonstration of the procedure used to provide an effective traffic management scheme and the use of a two-way radio • Control of small fires Note: Examples include the identification, selection and operation of the appropriate extinguishing mediums for various types of fires, general fire prevention methods and the precautions for personal protection when fighting small fires • Rescue victims from heights and confined spaces Note: Examples include planning, identifying, the procedures, and establishing responses, developing techniques, involvement of external emergency services and practical demonstration/rehearsals of rescuing a person from heights and from confined spaces and emergency procedures for the rescue of an electric shock victim including CPR • Requirements for aerial line work Note: Examples include planning, establishing and implementing relevant aviation authority clearances, determining system requirements, aircrew familiarization with network operations and equipment, requirements for effective communications operations for aerial work • Material handling and the environment Evidence shall show an understanding of the environmental fundamentals to an extent indicated by the following aspects: • Methods of obtaining updated environmental information and data sheets on the proper use and handling of equipment and materials • Environmental standards, codes, environmental legislation, OHS legislation, hazardous substances/dangerous goods regulations, supply authority regulations and or enterprise requirements applicable environmental care when handling materials including provision of manufacturers and suppliers information such as material safety data sheets (MSDS) • Types and application of personal protective equipment used for hazards substances • Types and application of personal protective equipment used for hazards substances and dangerous goods

	• Techniques in handling equipment to eliminate/reduce risks to the environment from spillages of oils, herbicides, pesticides and chemicals from such equipment encompassing:
	  • Vehicle loading crane
	  • Chainsaw
	  • Enterprise vehicles
	  • Explosive power tools
	• Procedures for handling and control of spillages of herbicides
	• Methods of disposing and storage of herbicides, pesticides and chemicals
	• Methods of cleaning mobile plant, equipment and tools
	• Recording of data

Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Power Line Works Support Level I	
Unit Title	**Work Safely near Live Electrical Apparatus as Non Electrical Worker**
Unit Code	**EIS_LWS1 03 0612**
Unit Descriptor	This unit covers compliance with working safely up to the defined "safe approach distance" near energized electrical apparatus (inc. electrical power lines) for non-electrical worker. It includes work functions that may be performed, such as vegetation control, scaffolding, rigging, painting, and/or any other activity that requires working safely and complying with requirements and/or established procedures near live electrical apparatus by a non-electrical worker. Also included is the preparation of risk assessment control measures that encompass job safety assessment. It does not include any work that is or may be performed by other competent operatives within the defined "safe working zone". The defined "safe working zone" is that so defined by relevant regulatory agencies/bodies, local government legislation, Industry bi-partite body –Guidelines/Codes of Practices or other related requirements for Safe work and access near live Electrical and Mechanical Apparatus.

Elements	Performance Criteria
1. Prepare to work safely near live electrical apparatus as nonelectrical worker	1.1 Instructions related to the ***work*** to be performed safely near live electrical apparatus as non-electrical worker are received and confirmed. 1.2 Relevant requirements and established procedures to be followed and, relevant personnel to be communicated with for the work to be performed are identified. 1.3 OHS policies and procedures to be followed for the work to be performed are received and confirmed. 1.4 Suggestions to assist in meeting the ***safety requirements*** for working near live electrical apparatus as a non-electrical worker are made to others involved in the work. 1.5 Hazards are identified; OHS risks assessed and control measures are prioritized, implemented and monitored including emergency exits kept clear according to established procedures. 1.6 Scope of responsibility and process of relevant work permit(s) issue is identified, received and confirmed according to requirements and established procedures. 1.7 Relevant responsibility associated with First Aid, Safety

	Observers and/or other related work safety procedures at the worksite are identified in accordance with requirements and established procedures to ensure safety measures are followed in the instance of an incident. 1.8 Processes for identifying and reporting client issues to appropriate personnel in accordance with industry/acceptable /community standards are identified. 1.9 Site and the work schedule to be prepared are confirmed according to given instructions for a quality outcome and to minimize risk and damage to property, commerce, stock and individuals in accordance and established procedures. 1.10 Electricity infrastructure assets, related voltages and requirements for working safely near live electrical apparatus as non-electrical worker are identified. 1.11 Safe approach distances including any zones thereof that may apply, as defined in industry guidelines, requirements and/or established procedures for the intended work are confirmed.
2. Carry out the work safely near live electrical apparatus as non-electrical worker.	2.1 OHS principles and practices to reduce the incidents of accidents are identified in accordance with given instructions, requirements and/or established procedures. 2.2 Working safely and complying with all safety requirements for working near live electrical apparatus as a non-electrical worker are followed in accordance with given instructions and established routines/procedures. 2.3 Processes for monitoring and reporting/referring hazards and OHS risks to the immediate authorized personnel for directions according to established procedures are followed. 2.4 Non-routine events are referred to the immediate authorized personnel for directions according to established procedures. 2.5 Unexpected events associated with working safely near live electrical apparatus as a non-electrical worker are responded to using acquired known solutions and skills related to routine procedures to ensure work instructions and established procedures are met.
3. Complete the work safely near live electrical apparatus as	3.1 Work schedule and anomalies for completion and checking of the work are reported to authorize personnel in accordance with established procedures. 3.2 Processes for reporting to authorized personnel

non-electrical worker.	accidents and/or incidents are confirmed in accordance with established procedures. 3.3 Requirements for returning work permit(s) and/or access Authorization permits are confirmed. 3.4 Appropriate personnel are notified of work completion according to established procedures. 3.5 Works completion records, report forms/data sheets are completed accurately in accordance with given instructions and established procedures.

Variable	**Range**
Work functions that may be performed such as:	• vegetation control • operation of cranes • elevating work platforms • excavators • concrete pumps etc • scaffolding • rigging • painting, and/or • any other activity that requires working safely and complying with requirements and/or established procedures near live electrical apparatus by a non-electrical worker/
Safely up to the defined "safe working zone" near energized electrical apparatus (inc. electrical power lines) for non-electrical worker including:	• an understanding of risk assessment control measures that encompass job safety assessment but excluding any work that is or may be performed by other competent operatives within the defined "safe working zone" Safe use of plant,
Equipment and tools within electrical environments including	but not limited by: • the electricity supply infrastructure assets, • infrastructure constructions and excavations including an understanding of safe approach distances zones/Safe Working Clearance, • work permit(s) and/or access Authorization permits, • technical standards and Industry Guidelines, • rural applications, • road construction, • pavements and • effect of inclement weather

Evidence Guide	
Critical Aspects of Competence	Assessment requires evidence that the candidate able to: • Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures • Apply sustainable energy principles and practices • Conduct work observing the relevant Anti Discrimination • legislation, regulations, polices and workplace procedures;
Underpinning Knowledge and Attitudes	Demonstrates knowledge of: • Basic electrical principles: Evidence shall show an understanding of electrical principles to an extent indicated by the following aspects: • Advanced engineering Mathematics Evidence shall show an understanding of advanced engineering Mathematic to an extent indicated by the following aspects: • Differentiation Calculus encompassing: • Integration, integration by parts, • Numerical methods, • Partial and total differentiation. • Linear Algebra encompassing: • Matrices and inverse matrices; • Linear mapping, • Determinants, • Solution of linear equations. • Vectors encompassing: • Geometrical representation, • Addition and scalar multiplication, • Dot and cross products, Equations of lines and planes. • Variables encompassing: • Graphs, level curves and surfaces • Partial derivatives; chain rule; directional derivative; • Maxima and minima. • Sequences and Series encompassing: • Algebraic and Fourier series, convergence; Taylor's Theorem • Power series manipulation. • Differential Equations encompassing: • First order and separable linear equations • Second order linear equations. • Partial differential equations. • Numerical Techniques. • Number encompassing: • Integer, irrational and complex numbers. • Number systems.

	• Arithmetic operations. • Accuracy and stability. • Statistics encompassing: • Assembly, representation and analysis of data. • Fitting distributions to data. • Non-parametric statistics. • Tests of significance for means, variances and extreme values. • Fundamentals for working safely near live electrical apparatus.
Underpinning Skills	Demonstrates skills to: • Electrical safe working practice • Transmission, distribution and rail power systems
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Power Line Works Support Level I	
Unit Title	**Operate Vegetation Control Plant, Machinery and Equipment near Live Electrical Apparatus**
Unit Code	**EIS_LWS1 04 0612**
Unit Descriptor	This unit covers the operation and routine maintenance of vegetation control machinery and equipment such as chippers, chainsaws, brush cutters, power pruners, and chemical control and other related associated and powered vegetation control machinery and equipment used near live electrical apparatus. It excludes plant and machinery that encompasses driving/flying and associated licenses, such as aerial croppers, slashers, tritters, boom-operated mowers, stump grinders, insulated elevating work platforms and the like. Also included is the preparation of risk assessment control measures that encompass job safety assessment. It also includes traffic control measures and compliance with relevant regulatory agencies/bodies, local government legislation, Industry bi-partite body – Guidelines/Codes of Practices or other related requirements for safe use of equipment near live electrical and mechanical apparatus.

Elements	Performance Criteria
1. Prepare to operate and conduct routine maintenance of vegetation control machinery and equipment near live electrical apparatus.	1.1 Work instructions are received and confirmed. 1.2 Relevant requirements and established procedures to be followed for the work to be preformed are discussed with all personnel to establish and confirm the work schedule. 1.3 OHS policies and procedures to be followed for the work to be performed are received and confirmed. 1.4 Suggestions to assist and/or improve meeting safe operation of vegetation control machinery and ***equipment*** near live electrical apparatus outcomes are made to others involved in the work. 1.5 Scope of responsibility under the relevant work permit(s)/access Authorization(s) identified according to requirements and established procedures with relevant personnel. 1.6 Hazards are identified; OHS risks are identified and reported according to established procedures. 1.7 Resources including, equipment, tools and personal protective equipment required for the job are obtained and, confirmed in working order according to established procedures. 1.8 Relevant responsibility associated with First Aid and/or other related work safety procedures at the worksite are

	confirmed in accordance with requirements and established procedures to ensure safety measures are followed in the instance of an incident. 1.9 Client issues are identified and referred to appropriate personnel in accordance with industry/acceptable /community standards. 1.10 Site is prepared to produce a quality outcome, follow sustainable energy principles and practices, and to minimize risk and damage to property, commerce, stock and individuals in accordance with established procedures. 1.11 Road signs, barriers and warning devices are obtained and positioned in accordance with given instructions and requirements. 1.12 Pre-operational checks are undertaken to confirm safe and correct operation of machinery and equipment for safe use near live electrical apparatus according to requirements and established procedures. 1.13 Work permit(s)/access Authorization(s) are confirmed and received, where applicable, for commencement of the work according to requirements and established procedures with relevant personnel.
2. Operate and conduct routine maintenance of vegetation control machinery and equipment near live electrical apparatus.	2.1 OHS and Sustainable Energy principles and practices to reduce the incidents of accidents and minimize waste are followed in accordance with given instructions, requirements and/or established procedures. 2.2 Use of machinery and equipment, techniques and practices are safely followed in accordance with given instructions and, according to requirements confirmed to eliminate the prospects of incidents. 2.3 Operational knowledge for the usage of vegetation control machinery and equipment near live electrical apparatus to be applied to the work is confirmed to ensure completion in an agreed timeframe and, to quality standards with a minimum of waste according to requirements and established procedures. 2.4 Vegetation control machinery and equipment is safely operated near live electrical apparatus in accordance with the work schedule, requirements, given instructions and established procedures. 2.5 Hazard warnings and safety signs are recognized and hazards and assessed OHS risks are monitored and reported/referred to the immediate authorized personnel for directions according to established procedures. 2.6 Non-routine events are referred to the immediate

	authorized personnel for directions according to established procedures. 2.7 Problems associated with the operation of vegetation control machinery and equipment near live electrical apparatus are attended to using acquired known solutions and skills related to routine procedures to ensure work instructions and established procedures are met. 2.8 Ongoing checks of quality of the work are undertaken in accordance with given instructions and established procedures.
3. Complete the operation and routine maintenance of vegetation control machinery and equipment near live electrical apparatus.	3.1 Work undertaken is checked against work schedule and anomalies reported to authorized personnel in accordance with established procedures. 3.2 Accidents and/or incidents are implemented and reported to authorize personnel in accordance with established procedures. 3.3 Work site is rehabilitated, cleaned-up, sustainable energy principles and practices applied, and made safe in accordance with given instructions and established procedures or an agreed standard. 3.4 ***Machinery,*** equipment, tools and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures. 3.5 Appropriate personnel are notified of work completion according to established procedures. 3.6 Post-operational checks, minor maintenance and/or relevant documentation of machinery and equipment are conducted according to requirements. 3.7 ***Requirements*** for returning work permit(s) and/or access Authorization permits are confirmed, where applicable. 3.8 Works completion records, report forms/data sheets are completed accurately in accordance with given instructions and established procedures.

Variable	**Range**
This unit is to be demonstrated in relation to the operation and routine maintenance of vegetation control machinery and equipment such as:	• chippers • chainsaws • brush cutters • power pruners • chemical control and other related associated and powered • vegetation control machinery and • equipment used near live electrical apparatus

Excludes plant and machinery that encompasses driving/flying and associated licenses, such as:	• aerial croppers, • slashers, • tritters, • boom-operated mowers, • stump grinders, • insulated elevating work platforms and the like
Preparation of risk assessment control measures that encompass job safety assessment and Includes:	• traffic control measures and compliance with relevant regulatory agencies/bodies, • local government legislation, • Industry bi-partite body – Guidelines/Codes of • Practices or other related requirements for Safe use of equipment near live Electrical and Mechanical Apparatus.
Prevailing Licensing Requirements	• Excludes any work that is or may be performed by other competent operatives within the • defined “ordinary person zone” • Working near energized live electricity supply infrastructure assets • Includes periodical and pre-operational checks of the machinery and equipment for safe • operation and conduct of maintenance checks and, associated documentation • Safe approach distances zones/Safe Working Clearance • Work permit(s) and/or access Authorization permits • Technical standards and Industry Guidelines It may also include other areas such as: • Feeder route plans, infrastructure constructions and excavations, rural applications, road construction, pavements and inclement weather • Ground configuration – undulations, uneven ground, soft ground, damp, etc • Plant, equipment and tools for use in electrical environments
The following constants and variables included in this unit are fully described:	• Appropriate and relevant persons (see Personnel) • Appropriate authorities • Appropriate work platform • Assessing risk • Assessment • Authorization • Confined space • Documenting detail work events, record keeping and or storage • of information • Drawings and specifications • Emergency • Environmental and sustainable energy procedures • Environmental legislation

	• Established procedures • Fall prevention • Hazards • Identifying hazards • Inspect • Legislation • MSDS • Notification • OHS practices • OHS issues • Permits and/or permits to work • Personnel • Quality assurance systems • Requirements • Work clearance systems

Evidence Guide	
Critical Aspects of Competence	Evidence that shows a candidate is able to: • Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures • Apply sustainable energy principles and practices • Conduct work observing the relevant Anti Discrimination legislation, regulations, polices and workplace procedures;

Underpinning Knowledge and Attitudes	Demonstrates knowledge of:
	• Confirm operational knowledge associated with the operation of control plant, machinery and equipment near live electrical apparatus in all of the following:
	  • Principles of electricity, the three phase power system.
	  • Power system.
	  • Recognition of aerial voltage systems.
	  • Identification of Low Voltage Aerial Circuits.
	  • Identification of High Voltage Aerial Circuits.
	  • “Safe working zone” so defined by relevant authorities.
	  • Use of technical standards, acts, regulations, codes /guidelines and established/enterprise/asset owner’s procedures.
	  • System Control – Information required and functions.
	  • Vicinity Permit – Information required and functions.
	  • Sensitive Earth Fault (SEF) System
	  • Confirm environmental principals and procedures
	• Confirm vegetation control associated with the operation of control plant, machinery and equipment near live electrical apparatus in all of the following:
	  • Identify tree types

	• Confirm vegetation species and types • Confirm vegetation cutting techniques for different vegetation • Confirm appropriate vegetation machinery and equipment to be used • Use of feeder route plans Conduct calculations related to loading and slinging Confirm the safe operation of machinery and equipment used in the control of vegetation near live electrical apparatus, in at least 6 of the following: • Chippers. • Chainsaws. • Brush cutters. • Slashers. • Power pruners. • Chemical control. • Pre and post operational checks, inspections and minor maintenance. • Safe deployment of machinery and equipment in varying conditions and weather
Underpinning Skills	Demonstrates skills to: • Confirm safe practices associated with the operation of control plant, machinery and equipment near live electrical apparatus in all of the following: • OHS safety practices and procedures. • Electric shock and resuscitation. • Release and rescue Role of the Safety Observer Events constituting an incident. • Procedures in the event of/responding to, incidents. • Methods of identifying hazards. • Risk assessment procedures. • Selection of the best position for monitoring and controlling work (cutting) • Selection of correct line of site to the cutter Correct observation of the work from ground level Constant analysis and decision making relevant to the safety of the work, taking into account prevailing site conditions (lay of the land) and on-going weather conditions
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Power Line Works Support Level I	
Unit Title	**Plan for the Removal of Vegetation up to Vegetation Exclusion Zone near Live Electrical Apparatus**
Unit Code	**EIS_LWS1 05 0612**
Unit Descriptor	This unit covers the preparation for the controlled removal of vegetation near live electrical apparatus up to the live work zone as defined for both Authorized and Instructed Persons in the industry guidelines associated with live electrical apparatus. This includes electrical and communications conductors and cables/power lines and associated equipment on poles and structures according to requirements and established procedures. It does not include the full gamut of rigging techniques and practices required of a Rigger or entry into to the safe approach distance (SAD) as defined for persons, mobile plant, equipment and specialized tools. It includes the preparation of a plan for the control and removal of vegetation, specifying appropriate chemical control methods, using slinging and loading techniques and practices to be used, traffic management, and appropriate pruning and/or cutting techniques and practices (encompasses cutting plan) for given vegetation species to minimize re growth within the electrical field according to requirements and procedures. Also included is the preparation of risk assessment control measures that encompass job safety assessment. Encompassed is compliance with relevant regulatory agencies/bodies, local government legislation, Industry bipartite body – Guidelines/Codes of Practices or other related requirements for safe work and access near live electrical and mechanical apparatus.

Elements	Performance Criteria
1. Prepare for the development of the plan for the removal of vegetation up to vegetation exclusion zone near electrical apparatus.	1.1 Work instructions are received and confirmed. 1.2 Relevant requirements and established procedures to be followed for the development of the work plan are discussed with all personnel to establish and confirm the work schedule. 1.3 OHS policies and procedures to be followed for the work to be performed are received and confirmed. 1.4 Suggestions to assist in meeting the planning for the removal of ***vegetation up to the live work zone near live electrical apparatus*** outcomes are made to others involved in the work. 1.5 Hazards are identified; OHS risks are identified and reported according to established procedures.

	1.6 Scope of responsibility under the relevant work permit(s)/access Authorization(s) are identified and confirmed according to requirements and established procedures with relevant personnel. 1.7 Resources including, plant, equipment, tools and personal protective equipment required for the job are identified in accordance with established procedures. 1.8 Relevant responsibility associated with First Aid, Aerial Rescue, Tree-Top Rescue and/or other related work safety procedures at the worksite are confirmed, where appropriate, in accordance with requirements and established procedures to ensure safety measures are followed in the instance of an incident. 1.9 Client issues are identified and referred to appropriate personnel in accordance with industry/acceptable /community standards. 1.10 Site preparation requirements are confirmed according to given instructions and planning of the work schedule for a quality outcome and to meet sustainable energy principles and practices to minimize risk and damage to property, commerce, stock, and individuals in accordance and established procedures. 1.11 Road signs, barriers and warning device requirements and positioning in accordance with given instructions and requirements are confirmed.
2. Carry out the development of the Plan for the removal of vegetation up to vegetation exclusion zone near live electrical apparatus	2.1 OHS and Sustainable Energy principles and practices to reduce the incidents of accidents and minimize waste are confirmed in accordance with given instructions, requirements and/or established procedures. 2.2 Lifting, climbing, working in confined spaces and/or aloft, and use of power tools/equipment, techniques and practices are confirmed in accordance with given instructions and, according to requirements confirmed to eliminate the prospects of incidents. 2.3 Operational knowledge for planning the removal of vegetation up to the live work zone near live electrical apparatus to be applied to the work, is confirmed to ensure completion will be within an agreed timeframe and, to quality standards with a minimum of waste according to requirements and established procedures. 2.4 Produce plan for the removal of vegetation up to the live work zone near live electrical apparatus accordance with given instructions and established procedures. 2.5 Hazard warnings and safety signs are recognized and

	hazards and assessed OHS risks are monitored and reported/referred to the immediate authorized personnel for directions according to established procedures. 2.6 Non-routine events are referred to the immediate authorized personnel for directions according to established procedures. 2.7 Development of the plan is carried out in accordance with the work schedule and to requirements. 2.8 Problems associated with producing the plan for the removal of vegetation up to the live work zone live electrical apparatus are attended to according to acquired known solutions and skills related to routine procedures to ensure the plan is produced as per instructions and established procedures. 2.9 Ongoing checks of quality of the work are undertaken in accordance with given instructions and established procedures.
3. Complete development of the plan for the removal of vegetation up to vegetation exclusion zone near electrical apparatus.	3.1 Work undertaken is checked against work schedule and anomalies reported to authorize personnel in accordance with established procedures. 3.2 Potential accidents and/or incidents are identified and reported to authorize personnel in accordance with established procedures. 3.3 Work site to be rehabilitated, cleaned up and made safe is identified in accordance with given instructions and established procedures. 3.4 Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures. 3.5 Appropriate personnel are notified of work completion according to established procedures. 3.6 Works completion records, report forms/data sheets are completed accurately in accordance with given instructions and established procedures.

Variable	**Range**
This unit shall/may be demonstrated in relation to preparation for the controlled removal of	• Includes electrical and communications conductors and cables/power lines and associated equipment on poles and structures according to requirements and established procedures. • Excludes the full gamut of rigging techniques and practices required of a Rigger or entry into to the safe approach

vegetation around live power lines up to the live work zone as defined for both instructed and authorized persons in the industry guidelines associated with live electrical apparatus.	distance (SAD) as defined for persons, mobile plant, and equipment and specialized tools. • Includes the preparation of a plan for the control and removal of vegetation, specifying appropriate chemical control methods, using slinging and loading techniques and practices to be used, traffic management, and appropriate pruning and/or cutting techniques and practices (encompasses cutting plan) for given vegetation species to minimize re growth within the electrical field according to requirements and procedures. • Includes the preparation of risk assessment control measures that encompass job safety assessment and compliance with relevant regulatory agencies/bodies, local government legislation, Industry bi-partite body – Guidelines/Codes of Practices or other related requirements for safe work and access near live electrical and mechanical apparatus. • Working safely up to the defined “ordinary person zone” near energized electrical apparatus (inc. electrical power lines) for non-electrical worker/ordinary persons and in some instances vegetation. • Risk assessment control measures that encompass job safety assessment. • Excludes any work that is or may be performed by other competent operatives within the defined “ordinary person zone” • Electricity supply infrastructure assets including electrical apparatus, electrical and communication conductors, and equipment Safe approach distances zones/Safe Working Clearance • It may also include other areas such as: Feeder route plans, infrastructure constructions and excavations, rural applications, road construction, pavements and inclement weather • Plant, equipment and tools for use in electrical environments for vegetation control, loading and slinging equipment. • Vegetation control includes: site rehabilitation, horticultural vegetation cutting and pruning techniques to minimize re growth - chemicals and physical cutting and pruning tools/equipment, concerns for vegetation type/species and significance – heritage, significant, urban/rural; vegetation fire prone areas and areas of particular significance.
Constants and variables in the unit include:	• Appropriate and relevant persons (see Personnel) • Appropriate authorities • Appropriate work platform

	• Assessing risk • Assessment • Authorization • Confined space • Documenting detail work events, record keeping and or storage • of information • Drawings and specifications • Emergency • Environmental and sustainable energy procedures • Environmental legislation • Environmental management documentation • Established procedures • Fall prevention • Hazards • Identifying hazards • Inspect • Legislation • MSDS • Notification. • OHS practices • OHS issues • Permits and/or permits to work • Personnel • Quality assurance systems • Requirements • Testing procedures • Work clearance systems

Evidence Guide	
Critical Aspects of Competence	Evidence that shows a candidate is able to: • Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures • Apply sustainable energy principles and practices • Conduct work observing the relevant Anti Discrimination legislation, regulations, polices and workplace procedures
Underpinning Knowledge and Attitudes	Demonstrates knowledge of: • Magnetism • Electro technology science and materials • Occupational Health and Safety principles • Hazard assessment and risk management • Pruning principles near power line • Tree preservation principles • Enterprises specific - policies and procedure instructions • Enterprises specific - OHS instructions

Underpinning Skills	Demonstrates skills to: • Electrical safe working practices • Power line safety practices • Power line clearances and approach distances • Establishing rigging requirements for vegetation control • Power line access and isolation procedures • Chemical control of foliage
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Power Line Works Support Level I	
Unit Title	**Monitor Safety Compliance for Vegetation Work near Live Electrical Apparatus**
Unit Code	**EIS_LWS1 06 0612**
Unit Descriptor	This unit covers the control and monitor of work associated with vegetation control near live electrical apparatus. This includes observing, spotting, rendering warnings to stop unsafe work activities, and/or encroachment of ordinary persons, public, personnel and mobile plant and equipment into the safe approach distance (SAD) as defined for persons and mobile plant and equipment. A person designated as a safety observer, solely dedicated to the role, normally carries out this work. Also included is the preparation of risk assessment control measures that encompass job safety assessment. All work and zones is in compliance with relevant regulatory agencies/bodies, local government legislation, Industry bi-partite body – Guidelines/Codes of Practices or other related requirements for safe work and access near live electrical and mechanical apparatus.

Elements	Performance Criteria
1. Prepare to control safety compliance for vegetation work near live electrical apparatus	1.1 Work instructions are received and confirmed. 1.2 Relevant requirements and established procedures to be followed for the work to be performed are discussed with all personnel to establish and confirm the work schedule. 1.3 OHS policies and procedures to be followed for the work to be performed are received and confirmed. 1.4 Suggestions to assist in meeting control of safety compliance for ***vegetation work near live electrical apparatus*** outcomes are made to others involved in the work. 1.5 Hazards are identified; OHS risks associated with working near live electrical apparatus are identified and reported according to established procedures. 1.6 Scope of responsibility under the relevant work permit(s)/access Authorization(s) are received and confirmed according to requirements and established procedures with relevant personnel. 1.7 Resources including, equipment, tools and personal protective equipment required for the job are identified and, in working order according to established procedures. 1.8 Relevant responsibility associated with First Aid, Pole Top and Aerial Rescue and/or other related work safety

	procedures at the worksite are confirmed in accordance with requirements and established procedures to ensure safety measures are followed in the instance of an incident. 1.9 Client issues are identified and referred to appropriate personnel in accordance with industry/acceptable /community standards. 1.10 Site preparation is in accord with given instructions and established procedures. 1.11 Work schedule is prepared, to produce a quality outcome, follow sustainable energy principles and practices, and to minimize risk and damage to property, commerce, stock and individuals in accordance with established procedures. 1.12 Road signs, barriers and warning devices are planned and positioned in accordance with given instructions, established procedures and requirements.
2. Carry out the control of safety compliance for vegetation work near live electrical apparatus.	2.1 OHS and Sustainable Energy principles and practices to reduce the incidents of accidents and minimize waste/energy are followed in accordance with given instructions, requirements and/or established procedures. 2.2 Lifting, climbing, working in confined spaces and/or aloft, and use of power tools/equipment, techniques and practices are observed in accordance with given instructions and, according to requirements to eliminate the prospects of incidents. 2.3 Operational knowledge for controlling the safety compliance for vegetation work near live electrical apparatus is applied to the work to ensure safe systems of work are observed and completion is in an agreed timeframe and, to quality standards. 2.4 Safety compliance is controlled and monitored for vegetation work near live electrical apparatus in accordance with given instructions, requirements and established procedures. 2.5 Hazard warnings and safety signs are recognized and hazards and assessed OHS risks are reported/referred to the immediate authorized personnel for directions according to established procedures. 2.6 Non-routine events are responded and referred to the immediate authorized personnel for directions according to established procedures. 2.7 Work is performed in accordance with the work schedule and to requirements.

	2.8 Problems associated with the control of safety compliance and monitoring for vegetation work near live electrical apparatus is responded to using acquired known solutions and skills related to routine procedures to ensure work instructions and established procedures are met. 2.9 Ongoing checks of quality of the work are undertaken in accordance with given instructions and established procedures.
3. Complete the control of safety compliance for vegetation work near live electrical apparatus.	3.1 Work undertaken is checked against work schedule and anomalies reported to authorized personnel in accordance with established procedures. 3.2 Accidents and/or incidents are implemented and reported to authorize personnel in accordance with established procedures. 3.3 Work site is rehabilitated, cleaned-up, sustainable energy principles and practices applied, and made safe in accordance with given instructions and established procedures or an agreed standard. 3.4 Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures. 3.5 Appropriate personnel are notified of work completion according to established procedures. 3.6 Requirements for returning work permit(s) and/or access Authorization permits are confirmed. 3.7 Works completion records, report forms/data sheets are completed accurately in accordance with given instructions and established procedures within.

Variable	**Range**
This unit shall/may be demonstrated in relation to monitoring and controlling vegetation work near live electrical apparatus and/or including the following:	• Voltages exceeding 240 V, 11/22/33 and/or 66 KV • Includes observing, spotting, rendering warnings to stop unsafe work activities, and/or encroachment of ordinary persons, public, personnel and mobile plant and equipment into the safe approach distance (SAD) as defined for persons and mobile plant and equipment. A person designated as a Safety Observer, solely dedicated to the role, normally carries out this work. • Work and zones is in compliance with relevant regulatory agencies/bodies, local government legislation, Industry bi-partite body – Guidelines/Codes of Practices or other related requirements for Safe work and access near live Electrical and Mechanical Apparatus.

	• Working safely up to the defined “ordinary person zone” near energized electrical apparatus (inc. electrical power lines) for non-electrical worker/ordinary persons. • Risk assessment control measures that encompass job safety assessment. • Excludes any work that is or may be performed by other competent operatives within the defined “live work zone” • Electricity supply infrastructure assets and infrastructure constructions and excavations • Safe approach distances zones/Safe Working Clearance • It may also include other areas such as: Feeder route plans, infrastructure constructions and excavations, rural applications, road construction, pavements and inclement weather • Ground configuration – undulations, uneven ground, soft ground, damp, etc • Plant, machinery, equipment and tools for use in electrical environments
The following constants and variables included are fully described as:	• Appropriate and relevant persons (see Personnel) • Appropriate authorities • Appropriate work platform • Assessing risk • Assessment • Authorization • Documenting detail work events, record keeping and or storage of information • Drawings and specifications • Emergency • Environmental and sustainable energy procedures • Environmental legislation • Established procedures • Fall prevention • Hazards • Identifying hazards • Inspect • Legislation • MSDS • Notification • OHS practices • OHS issues • Permits and/or permits to work • Personnel • Quality assurance systems • Requirements • Work clearance systems

Evidence Guide	
Critical Aspects of Competence	Evidence that shows a candidate is able to: • Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures • Apply sustainable energy principles and practices • Conduct work observing the relevant Anti Discrimination legislation, regulations, polices and workplace procedures
Underpinning Knowledge and Attitudes	Demonstrates knowledge of: • Occupational Health and Safety principles • Enterprises specific - policies and procedure instructions • Enterprises specific - OHS instructions
Underpinning Skills	Demonstrates skills to: • Electrical safe working practices • Power line safety practices • Power line clearances and approach distances
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Power Line Works Supports Level I	
Unit Title	**Cut Vegetation above Ground Outside Live Work Zone near Live Electrical Apparatus (Climbing and Platform)**
Unit Code	**EIS_LWS1 07 0612**
Unit Descriptor	This unit covers cutting and/or pruning vegetation above ground level and removal of vegetation obstructions, up to the live work zone as defined for both Authorized and Instructed Persons in the industry guidelines associated with live electrical apparatus, using the established cutting plan relevant to the vegetation type. It encompasses the safe use of appropriate/specialized tools and equipment according to requirements and established procedures. It includes safely accessing trees from above ground level to install restraints/slings, removing tree limbs in a safe manner and, clearing debris from the felling site to eliminate the occurrence of electrical incidents. It DOES NOT include entry of persons, mobile plant, equipment, and/or specialized tools into to the safe approach distance (SAD) as defined. Also included is the preparation of risk assessment control measures that encompass job safety assessment. All work and zones is in compliance with relevant regulatory agencies/bodies, local government legislation, Industry bi-partite body–Guidelines/Codes of Practices or other related requirements for Safe work and access near live Electrical and Mechanical Apparatus.

Elements	Performance Criteria
1. Prepare to cut/prune vegetation above ground (using climbing technique) up to the vegetation exclusion zone near live electrical apparatus.	1.1 Work instructions and cutting plan are received and confirmed. 1.2 Relevant requirements and established procedures to be followed for the work to be performed in accord with the cutting are discussed with all personnel to establish and confirm the work schedule. 1.3 OHS policies and procedures to be followed for the work to be performed are received and confirmed. 1.4 Suggestions to assist and/or improve meeting the ***cutting of vegetation above ground level outside the climber exclusion zone near electrical apparatus*** outcomes are made to others involved in the work. 1.5 Hazards are identified; OHS risks associated with working near live electrical apparatus are identified and reported according to established procedures. 1.6 Scope of responsibility under the relevant work permit(s)/access Authorization(s) identified according to requirements and established procedures with relevant

	personnel. 1.7 Resources including, equipment, tools, approved platforms and personal protective equipment required for the job are obtained and, in working order according to established procedures. 1.8 Relevant responsibility associated with First Aid, working aloft, and/or other related work safety procedures at the worksite are confirmed in accordance with requirements and established procedures to ensure safety measures are followed in the instance of an incident. 1.9 Client issues including environmental values are identified and referred to appropriate personnel in accordance with industry/acceptable /community standards. 1.10 Site is prepared to produce a quality outcome, follow sustainable energy principles and practices, and to minimize risk and damage to property, commerce, stock and individuals in accordance with established procedures. 1.11 Road signs, barriers and warning devices are obtained and positioned in accordance with given instructions and requirements. 1.12 Pre-operational checks are undertaken to confirm safe and correct operation of tools and equipment for safe use near live electrical apparatus according to requirements and established procedures. 1.13 Work permit(s)/access Authorization(s) are confirmed and received, where applicable, for commencement of the work according to requirements and established procedures with relevant personnel.
2. Carry out the cutting/pruning of vegetation above ground (using climbing technique) up to the vegetation exclusion zone near live electrical apparatus.	2.1 OHS and Sustainable Energy principles and practices to reduce the incidents of accidents and minimize waste are followed in accordance with given instructions, requirements and/or established procedures. 2.2 Lifting, climbing, working in confined spaces and/or aloft, and use of tools/equipment, techniques and practices are safely followed in accordance with given instructions and, according to requirements confirmed to eliminate the prospects of incidents. 2.3 Operational knowledge for the cutting of vegetation above ground level outside the climber exclusion zone near electrical apparatus is confirmed to ensure completion in an agreed timeframe and, to quality standards with a minimum of waste according to requirements and established procedures and established procedures. 2.4 Cutting of vegetation above ground level outside the