



**ENERGY
ISOLATION**

Electrical Safety Standard

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1.0 Purpose

The purpose of this Electrical Safety Standard (hereafter “this Standard”) is to define Cenovus’s minimum requirements to identify, assess and mitigate hazards associated with working on or near electrical equipment or systems.

The requirements within this Standard are intended to eliminate or reduce the risk of exposure to electric shock and arc flash hazards associated with direct or indirect electrical contact.

The functional teams shall align themselves with the expectations of this Standard and develop execution plans and procedures to implement them.

2.0 Scope

This Standard is supplementary to any federal, provincial or local regulatory requirements and applies to the following:

- Work performed on any Cenovus worksites
- Electrical safety-related work practices, requirements and controls for safeguarding workers from associated electrical energy hazards

This Standard **does not** apply to:

- Instrument and control systems operating at 50V or lower
- Hazards associated with the application of electricity in hazardous locations (for an explanation, refer to Section 18 of the Canadian Electric Code (CEC), and the latest Alberta Municipal Affairs Electrical Safety Information Bulletin- Standata)
- Effects of arc blast

Notify the Electrical Engineering Functional Team when the requirements of this Standard are not aligned with the electrical codes, governing standards, or regulations.

When a conflict arises between this Standard and others, the most stringent of the following shall apply:

- Alberta OHS Code
- Canadian Electrical Code with applicable jurisdiction amendments
- Alberta Electrical Utility Code

Should a conflict arise, contact the Cenovus Electrical Engineering Functional Team for written clarification.

The information in this Standard applies to all phases of the Asset Information Lifecycle as depicted in the high-level process structure below:

Figure 1: Asset Information Lifecycle



3.0 Intended Audience

The primary intended audience for this Standard is the maintenance leaders and electrical supervisor/ managers (or equivalent) responsible for guiding the personnel working on/ near electrical equipment and systems.

4.0 Governance

All governing documents, associated with this Standard, must be routinely assessed and updated, as necessary, to ensure the content is accurate and complete.

5.0 Reporting

All electrical incidents, including those involving contact with a power line, electrical equipment or system (regardless of voltage), must follow *HSER Incident Management Process* and get reported through the Incident-Management System (Intalex).

!	Report all power line contact incidents IMMEDIATELY to the Cenovus Electrical Engineering Functional Team.
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6.0 Roles and Responsibilities

The following responsibilities apply to this Standard.

Table 1: Roles and Responsibilities

Role	Responsibilities
<p>Functional Leaders (Senior Business Leaders)</p>	<ul style="list-style-type: none"> • Implement the requirements of this Standard within their functional group or asset locations • Define key responsibilities for the electrical functional supervisor role and electrical worker role • Ensure the system(s), process(es), procedures, training, and other supporting resources are in place to enable the requirements of this Standard • Provide input to the development and maintenance of this Standard and the applicable functional communications
<p>Functional Supervisors (Field Supervisors responsible for worksites and execution of work)</p>	<ul style="list-style-type: none"> • Review site-level work instructions/ procedures required to meet the requirements of this Standard • Provide guidance and supervision to workers regarding this Standard • Review and participate in hazard assessments • Meet or exceed the requirements of this Standard • Confirm that protective measures are satisfactory to mitigate hazards involved with work conditions • Ensure service providers comply with established work methods

Role	Responsibilities
	<ul style="list-style-type: none"> • Ensure service providers use personal protective equipment (PPE) as required by this Standard • Review and verify that personnel involved with electrical work are authorized to work • Report all incidents related to electrical work • Ensure that all workers under their supervision, who work near electrical equipment or systems, are qualified, trained, and knowledgeable about any applicable operating and maintenance policies, standards, business processes, and procedures • Implement and communicate the requirements of this Standard • Conduct assurance activities to verify compliance with the expectations outlined in this Standard using the <i>Electrical Safety Standard Self Assessment Audit Checklist</i>
Cenovus Electrical Engineering Team	<ul style="list-style-type: none"> • Serve as the content owner and subject matter expert (SME) for the contents of this Standard • Validate feedback for accuracy and submit change requests accordingly • Supply Arc Thermal Performance Value (ATPV) ratings for electrical equipment on-site or provide direction for PPE requirements when ATPV ratings are not in place • Support Cenovus’s business functions with requirements outlined in this Standard • Provide technical support to facilitate the requirements of applicable codes for the electrical installation of equipment and systems • Communicate changes to this Standard to functional supervisors
Electrical Planner	<ul style="list-style-type: none"> • Compile documentation required by the electrical work plan within the Maintenance Management System or equivalent system, for use by electrical workers
Electrical Worker	<ul style="list-style-type: none"> • Meet or exceed expectations of this Standard • Use proper tools, PPE, and procedures required to perform electrical work safely • Comply with this Standard’s established work methods • Obtain safe work permit and other approvals as needed, before commencing electrical work • Conform to the safe work permit requirements • Confirm a hazard assessment is completed and documented for all electrical work

Role	Responsibilities
	<ul style="list-style-type: none"> • Participate in hazard assessments • Demonstrate technical knowledge, skills and experience with equipment to carry out the work safely • Obtain authorization applicable to the task before commencing electrical work
HSER Programs Team	<ul style="list-style-type: none"> • Lead document reviews and revisions as per the <i>Cenovus HSER Document Management Process</i> • Monitor and collect feedback related to this Standard to verify program effectiveness
HSER Field Team	<ul style="list-style-type: none"> • Conduct worksite observations and assessments regularly to verify compliance with requirements described in this Standard • Assist with the implementation and communication of these requirements • Provide feedback to the Electrical Engineering Team concerning proposed changes or improvements to this Standard

7.0 Work Planning

Before conducting electrical work, the following prerequisites must be in place:

7.1 Work permits

- Issue a *Cenovus Safe Work Permit* by the responsible Functional Supervisor (i.e. work area supervisor) for all electrical tasks, regardless of the voltage readings
- Issue a *Cenovus Energized Electrical Work Permit* for all energized electrical work
- Perform appropriate analysis or assessment to estimate the operational risks before performing any electrical work. Examples include but not limited to, the following:
 - Arc Flash Hazard Analysis
 - Shock Hazard Analysis
 - Risk Assessment
- Assess and accept overall residual risk before approving electrical work on/ near electrical equipment or systems
- Obtain approval from Cenovus Electrical Engineering Functional Team for work above 40 Cal/cm²

!	Working alone is not allowed for tasks requiring an Energized Electrical Work Permit (Refer to the <i>Cenovus Working Alone Standard</i>).
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!	An Energized Electrical Work Permit is not required when a knowledgeable worker (as deemed by functional level supervisor) is troubleshooting a circuit (e.g. measuring voltage, current or IR scanning), where voltage is less than 750V.
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7.2 Pre-job hazard assessments

- Complete a hazard assessment before commencing the electrical work with input from workers performing electrical work (refer to the *Hazard Assessment and Control Practice*)
- Identify, assess and control all site-level hazards
- Deliver pre-job briefings about hazards to all workers performing electrical work and to others who will work near electrical equipment or systems

7.3 Hazard mitigation measures

- Select mitigation measures as identified by a hazard assessment
- Follow the hierarchy of controls when selecting additional preventive and protective control measures. The hierarchy order is:
 1. Elimination
 2. Substitution
 3. Engineering
 4. Administrative
 5. Personal protective equipment

7.3.1 Elimination

- Remove any exposure to electricity by de-energizing the electrical equipment or system
- Eliminate the likelihood of human error by eliminating specific job steps or tasks

7.3.2 Substitution

Lower the electrical energy exposure severity or reduce the frequency of exposure by substituting equipment or a system to mitigate potential electrical hazards (e.g. replacing 120-volt cord-powered tools with battery-powered tools).

7.3.3 Engineering controls

Use engineering controls to remove or isolate the electrical hazard at the source to mitigate exposure to electrical hazards.

Select the engineering controls to protect the worker from exposure to an electrical hazard. Engineering controls include, but not limited to, the following:

- Grounding set/ cluster (temporary and personal protective grounds)
- High voltage detector
- Low voltage tester

- Hot stick or shotgun stick
- Insulated hand tools
- Voltage rated tools
- Switchboard matting
- Ground fault circuit interrupter (GFCI)
- Rated fuse or circuit breaker

7.3.4 Administrative controls

Use appropriate administrative controls, including but not limited to, the following:

- Permits, procedures, drawings, and manuals
- Safety signs and tags
- Safety watch
- Qualified Electrical Person (QEP) (to observe and assist if necessary, to the primary electrical worker)
- Contacting utility provider (e.g. Guarantee of Isolation (GOI), High Voltage Permit)
- Lockout
- Determining the hazard boundaries or exclusion zones
- Notifying the impacted personnel

7.3.5 Personal protective equipment

- Select the personal protective equipment (PPE) as per the electrical work pre-job hazard assessment. For more information, see *Electrical Work Practice* for the business function
- For Cenovus PPE specification and requirements, refer to Cenovus or Functional Team PPE practice
- Ensure electrical PPE is appropriate to the arc flash rating and task
- Wear ATPV rated garments as the outermost layer of clothing when conducting energized electrical work

7.3.5.1 Basic electrical work PPE

Basic PPE	
• Type I, Class "E" Hard hat	• Clean leather gloves
• Steel toe boots with orange Greek letter omega Ω	• Arc rated clothing
• Safety glasses	• Hearing protection (ear canal inserts)

Basic PPE	
<ul style="list-style-type: none"> Goggles 	<ul style="list-style-type: none"> Specialized garments (e.g., battery acid-resistant etc.)

7.3.5.2 Energized electrical work PPE

All the following PPE must be (ATPV) rated:

Energized Electrical Work PPE	
<ul style="list-style-type: none"> Coverall 	<ul style="list-style-type: none"> Jacket
<ul style="list-style-type: none"> Arc flash suit jacket 	<ul style="list-style-type: none"> Parka
<ul style="list-style-type: none"> Arc flash suit pants 	<ul style="list-style-type: none"> Rainwear
<ul style="list-style-type: none"> Face shield 	<ul style="list-style-type: none"> Hard hat liner
<ul style="list-style-type: none"> Rubber insulating blankets 	<ul style="list-style-type: none"> Rubber insulating mats
<ul style="list-style-type: none"> Voltage-rated gloves 	<ul style="list-style-type: none"> Insulating apron
<ul style="list-style-type: none"> Flash suit hood 	<ul style="list-style-type: none"> Long sleeve shirts and pants

- The worker must pre-check PPE and use all appropriate PPE as per the electrical work pre-job hazard assessment
- Insulating PPE, specifically voltage rated gloves, hot sticks and rubber insulating mats must be tested periodically and must be within valid test dates as per ASTM/CSA Standards or manufacturer recommendations
- Minimum test frequency for voltage-rated gloves as per CSA Z462 Table 4 is every six months

7.4 Work plan

Before starting each job that involves exposure to electrical hazards, the electrical worker in charge shall:

- Follow the requirements of an electrical work plan
- Conduct a job briefing with the workers involved

7.4.1 Electrical work plan details

An electrical work plan must include work authorization (e.g. Safe Work and/ or Energized Electrical Work Permit(s), High Voltage Permit(s), GOI)

An electrical work plan should also include, but not be limited to:

- Required notifications and approvals (e.g. Operations, control room, utility provider, etc.)
- Ground disturbance and Lock-Out-Tag-Out (LOTO) procedures, as required
- Procedure for revoking approvals and notifications

- Detailed scope of work:
 - Hazard assessments
 - List of required equipment and personnel
 - Latest version of electrical drawings and/or studies
 - Information on accessing energized equipment
 - Information about energized parts
 - Ambient conditions (e.g. rain, humidity, height from the ground, etc.)
 - Step-by-step de-energization (isolation) and re-energization plan

8.0 Safe Work Execution

8.1 Fundamental principles

- Do not begin any electrical work until workers fully understand the hazards and mitigation measures
- If any changes to the work plan occur, stop the task, think and analyze, assess and control the hazard
- Obtain Functional Supervisor approval in writing for deviation from work instructions or procedures in any circumstances
- Safe work procedures (step-by-step work instructions) must be documented, implemented, and consistently used for all electrical tasks:
 - Functional teams must identify electrical tasks that require pre-written safe work procedures
- Business functions shall risk-rank the tasks involving electrical work
- Business functions shall develop and follow safe work procedures for the execution of such tasks or review and accept service providers plans and controls for the execution of such tasks
- Do not wear jewellery (such as necklaces, earrings, rings, bracelets, metal headgear, or watches) while performing electrical work
- Do not override or disable safety-critical controls and equipment without obtaining authorization (refer to *Bypass Management Practice* or procedures specific to the Business Functions or *Cenovus Life saving Rules*)
- Use appropriate safety signs, barricades, warning tags, safety labels, or a safety watch to alert others about potential electrical hazards
- Electrical outlets, switches, panels, junction boxes, etc., that are not the focal point of the work must be guarded and shall have cover plates securely installed
- Do not store flammable materials near electrical equipment

8.2 De-energization

- All electrical equipment and systems must be de-energized before commencing an electrical task unless de-energization introduces additional or increased risk,

or is impractical due to equipment design, operating limitations, or the nature of the task

- All energized electrical work must be approved by functional supervisors (e.g. Operations) and justified by a qualified electrical person
- Initiate “Test before Touch” to verify the absence of voltage
- In situations where the electrical worker is performing a test before touch on a de-energization task, the PPE required to perform the “test before touch” shall be Cenovus level 1 PPE independent of the Arc Flash Level
- Apply lock-out-tag-out devices according to the *Cenovus Energy Isolation Standard* and applicable functional level isolation practices

8.3 Energization

- Ensure that all the barriers and equipment parts that may have been removed during the electrical work have been reinstalled and are safe to operate
- Conduct a hazard assessment before energizing the electrical equipment or system

8.4 Grounding

- Grounding and bonding equipment safeguard workers from electric shock and mitigates electrical hazards associated with static electricity charge
- Bonding and grounding devices are the preferred method to safeguard workers when identified in the hazard assessment
- Only a qualified electrical person shall install bonding and grounding devices to electrical equipment and systems
- Refer to functional or area-specific bonding and grounding guidelines in addition to the requirements of this Standard

!	For grounding of static electricity, refer Guideline CVE-46-GDL-00-0001-001 - Static Electricity & Lightning
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8.4.1 General Requirements

- Conduct a hazard assessment to evaluate the effectiveness of the grounding devices for equipment operating under 750 volts

!	Equipment rated 750 volts, or less may not be designed to facilitate the use of grounding devices. Equipment rated higher than 750 volts typically have provisions for applying grounds.
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- Ensure test equipment and grounding devices are rated for the maximum expected voltage and current and are in good condition
- Check all electrical sources for stray energy and ground them appropriately
- Equipment parts for grounding must be de-energized and verified by a voltage test before installing grounding devices

- To prevent shock from induced current, check and ground non-electrical equipment that may be in contact or positioned near a high voltage electrical source (e.g. a substation fence)

8.4.2 Well delivery

- Well delivery refers to drilling, completion, well servicing, seismic and earthworks operations
- Interconnect all equipment and structures on a wellsite by an approved bonding method
- Grounding connections used to connect to the ground electrode (e.g. wellhead casing, conductor barrel or rig anchor) must be in good condition and attached tightly to the ground electrode

8.4.3 Portable electrical appliances, equipment and extension cords

- All portable electrical equipment shall be bonded to the ground as per the manufacturer's instructions and any site-specific requirements (e.g. generators, light standards, ground thawers and temporary power)
- All cord-connected portable appliances and power tools used outdoors and in wet locations shall be plugged into an approved ground fault circuit interrupter (GFCI) receptacle
- Power tools and portable electrical equipment must be used in accordance with the manufacturer's instructions
- Extension cords must be inspected for frays, cuts and damages before use. Defective cords must be removed from service
- Portable electrical equipment not classified for use in a hazardous location must be used outside of hazardous location or be treated and permitted as per *Cenovus Hot Work Standard*
- All electrical equipment must be approved under the appropriate provincial legislation and approved for the hazardous area classification

!	Electronic or electrical devices approved by a recognized testing laboratory under the Standards Council of Canada for use in a hazardous location are exempt from requiring a hot work permit.
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8.4.4 Lightning and Static Charge

- Business functions shall develop site-specific procedures to safely address risks when dealing with the dangers of lightning and static charge
- For protection from lightning strikes, equipment, buildings and tall structures must be grounded and bonded to create low impedance paths to the ground
- Workers shall ensure the clothing, or equipment used, dissipates the static electrical charge
- Plastic tanks, which contain flammable materials and susceptible to static charge build-up, shall be grounded and bonded adequately to avoid fire hazards during a fluid transfer

- Tank trucks containing flammable, combustible or explosive materials shall be bonded to a grounded system when being loaded or unloaded. Tank trucks loading and unloading in hazardous locations shall be bonded to a grounded system. Examples of bonding equipment include but are not limited to; system indicators, system interlocks, or visual cable and clamp assemblies. Tank truck loading and unloading stations shall include a ground plate or ground stub for the purpose of providing a solidly grounded connection point (refer to the Cenovus site-specific electrical engineered detail drawings for more information)
- Refer Guideline CVE-46-GDL-00-0001-001 for Static Electricity & Lightning

8.5 Power lines

Work being done in the proximity of a power line shall include a pre-work hazard assessment with respect to the power line.

8.5.1 Overhead power lines

When working near overhead power lines refer to the *Overhead Powerline Encroachment Standard*.

8.5.2 Underground power lines

- Power lines, electrical cables, or conduits installed in a work area must be located and marked before performing any electrical work activities
- Follow *Cenovus Ground Disturbance Standard*. If required, powerlines must be unearthed, grounded and where possible adequately isolated
- Contact the power line utility provider for underground powerline safe distance and excavation concerns, including reporting of incidents

8.5.3 Physical protection

Protect temporary power supply system installations with suitable barriers to prevent damages.

8.6 Emergency response

Follow the site-specific emergency response plans and supporting procedures for the functional area when responding to emergencies.

9.0 Training

9.1 Basic training requirements

- Functional Leaders must ensure all workers under their supervision, who work on or near electrical equipment/ systems, are qualified, trained and knowledgeable about any applicable operating and maintenance policies, standards, business processes and procedures
- Training must be by *COMS Standard 5.4 Training and Competency Assurance*
- All workers who are required to isolate hazardous energy must be experienced in energy isolation

- All service providers must have an electrical safety program and have the workers trained according to their program
- Site-specific electrical equipment owned by Cenovus, utilized by third-party service providers, and identified as a medium or high-risk electrical task, may require additional procedures or training support
- Cenovus may provide formal training on site-specific procedures and may certify non-electrical persons for the task. Contact the Cenovus Electrical Engineering Functional Team for additional information
- Use existing industry standards and training for electrical work to promote electrical safety awareness among the workforce (e.g., online training, CSA Z462, ATSM)

9.2 Cenovus training

Workers shall access e-learning modules applicable to your area of work or contact their direct supervisor for additional training information.

9.3 Operating and maintenance procedures

Functional Leaders shall ensure that workers under their supervision, have been trained in the appropriate policies, standards, processes, and procedures.

This accountability is defined within *4.5 Operating and Maintenance Procedures COMS Standard*.

10.0 Program Compliance

10.1 Assessments

Business functions affected by this Standard must include compliance and program effectiveness verifications in their respective business assurance programs.

Each business function shall assess compliance with this Standard through program assessments and internal audits, or other measurements as specified in the *7.2 Assurance COMS Standard*.

11.0 References

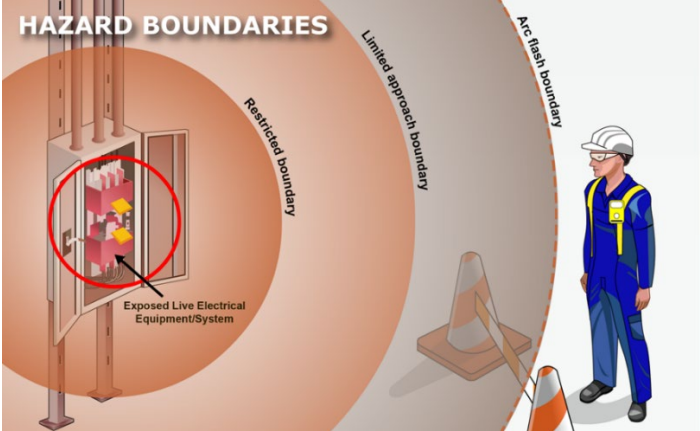
11.1 Definitions and acronyms

The following terms, definitions and acronyms are specific to this Standard.

Table 2: Terms and Definitions

Term	Definition
Arc flash hazard	A source of possible injury or damage to health associated with the release of energy caused by an electric arc. Hazards connected with an arc flash include sharp metal projectiles, hazardous radiation, high-pressure gases, loud noise, or vaporized metal, etc.
Arc flash	An engineering method to determine the risk of personal injury as a result of exposure to incident energy from an electrical arc flash.

Term	Definition
Arc rating	The value attributed to materials that describe their performance to exposure to an electrical arc discharge. The arc rating is expressed in calories/cm ² and referenced in the Single Line Drawing (SLD).
Arc thermal performance value	Incident energy (cal/cm ²) on a material that results in a 50% probability that sufficient heat transfer through the specimen is predicted to cause second-degree burn injury or less (i.e. limit the burns to the body resulting from an arc flash event, to a survivable level).
Bonding	A low impedance path obtained by permanently joining all non-current-carrying metal parts to ensure electrical continuity and having the capacity to conduct safely any current likely to be imposed on it.
De-energized electrical work	Equipment-free from electrical connection to a source of potential difference and the electrical charge.
Electrical equipment	Equipment using electricity, which includes, but not limited to, machines, conductors, control devices and systems powered by electricity.
Electrical hazard	A dangerous condition such that contact or equipment failure can result in electric shock, arc flash burn, thermal burn, or arc blast injury.
Electrical shock	Possible injury, due to the current passing through the body, caused by contact or approach to exposed energized electrical conductors or circuit parts.
Electrical work	For this Standard, electrical work is defined as, but not limited to, constructing, inspecting, repairing, measuring and maintaining electrical equipment and systems. Refer to business function specific documents for further information regarding Electrical Safe Work: <ul style="list-style-type: none"> • Oilsands – Electrical Work Practice • Deep Basin – Electrical Work
Electrically safe work	A state in which the conductors or circuit to be worked on has been disconnected from energized parts, performed LOTO per established procedures, tested to verify the absence of voltage and, if necessary, temporarily grounded for personal protection.
Energized electrical work	Work on equipment and systems which are either energized, or in situations where there is nothing to prevent them from being energized. The voltage may be present due to direct connection to a power source, induction from a source or not having been discharged after disconnection.
Grounding	The process of connecting one or more conductive objects to earth, to minimize the difference in potential between the object and earth.
Ground fault circuit interrupters (GFCI)	A safety device that de-energize a circuit or portion thereof within an established period when current to the ground exceeds the values established by industry standards.

Term	Definition
Grounding electrode	The process of connecting one or more conductive objects to earth, which minimizes the difference in potential between the object and earth.
Hazard boundary	<p>An approach limit at a distance from an exposed energized electrical conductor or circuit part within which a shock hazard exists due to:</p> <ul style="list-style-type: none"> • Arc flashes • Electrical arc-over combined with inadvertent movement <p>Hazard boundaries established in this document are:</p> <ul style="list-style-type: none"> • Arc Flash Boundary • Limited Approach Boundary • Restricted Approach Boundary 
Knowledgeable person	<p>A person who:</p> <ul style="list-style-type: none"> • Holds adequate qualifications • Possesses knowledge of equipment, systems and procedures • Meets electrical safety training requirements, as per this Standard • Experienced with the application of the knowledge gained from the above
Level 1 PPE	<ul style="list-style-type: none"> • Arc rated face shield attached to a CSA approved hard hat. The face shield is with ATPV or incident energy rating of minimum 8 cal/cm², worn with CSA approved safety glasses or equivalent flash hood worn with CSA approved safety glasses • V-rated gloves appropriate to the voltage level • Hearing protection (e.g. earplugs) • Wear acceptable FR coveralls with minimum ATPV of 8 cal/cm² over a layer of 100 percent cotton clothing
May	The verb used in a statement giving permission for action or describing a possibility. Examples: "KPIs may be used for measurement." "The crane may collapse if not anchored."

Term	Definition
Power tool	The term “power tool” applies to any portable and/ or handheld tool powered by a separate energy source, such as battery-operated or utility powered (e.g. drills, abrasive tools, testing equipment, saws, heating appliances, fans, blowers, lamps, etc.).
Qualified electrical person	A worker appropriately authorized by the jurisdiction having authority, who has sufficient knowledge, training and experience to perform electrical work safely (e.g. Journeyman Electrician, Power System Electrician, Power Line Technician, Electrical Engineering Technologist, Electrical Engineer) or others approved, in writing, by Cenovus senior leaders.
Shall	The verb used in a sentence indicating a mandatory action. Equivalent to “must.”
Shock hazard analysis	An engineering method to determine the voltage to which personnel will be exposed, boundary requirements, and the personal protective equipment necessary to minimize the possibility of electric shock to personnel.
Should	The verb used in a statement indicating a preferred action. Not equivalent to “shall” or “must.”
Single line Diagram (SLD)	An electrical schematic diagram that illustrates all phases of the electrical system with one line and includes electrical circuit devices and components.
Test before touch	An industry-recognized practice involving the use of test equipment to determine the absence of voltage.
Voltage classification	<ul style="list-style-type: none"> • Low voltage 30-750V • Medium voltage 751-38KV • High voltage >38KV
Will	The verb used in a statement to indicate likelihood. Not equivalent to “shall” or “must.”

Table 3: Acronyms, Initialisms and Abbreviations

Acronym	In Full
ATPV	Arc Thermal Performance Value
CSA	Canadian Standards Association
FR	Fire retardant
GOI	Guarantee of Isolation
GFCI	Ground fault circuit interrupters
NFPA	National Fire Protection Association
QEP	Qualified Electrical Person

11.2 Related information

The following references were used in the development of this Standard.

- Alberta Electrical Utility Code
- [Alberta OHS Act, Regulation & Code](#) – Part 8, 10, 15, 17, 18, 40
- [Alberta Safety Codes Electrical STANDATA](#)
- ASTM Standards
- Canadian Electrical Code (CSA) Part I
- Canadian Standard Association- Standard Z462
- Electrical Safety Standard Self Assessment Audit Checklist
- Electrical Safety Procedures (Business Specific)
 - Deep Basin – Electrical Work
 - Oilsands - Electrical Work Practice
- Electrical Utility Operating Practice
- Life saving rules
- COMS Standards
 - 4.5 Operating and Maintenance Procedures COMS Standard
 - 5.4 Training and Competency Management COMS Standard
 - 7.2 Assurance COMS Standard
- HSER Program Revision Process
- HSER Programs & documentation
 - Bypass Management Practice
 - Energized Electrical Work Permit
 - Energy Isolation Standard
 - Ground Disturbance Standard
 - Hazard Assessment and Control Practice
 - Safe Work Permit Practice
 - HSER Incident Management Process
 - Hot Work Standard
 - Working Alone Standard
- NFPA 73E Standard
- Overhead Power Line Encroachment Standard
- Guideline for Static Electricity & Lightning