



High Voltage Procedure

Health & Safety

1 Purpose and Scope

This High Voltage Procedure provides mandatory requirements to support implementation and conformance with MSIR 1995, Electricity Licencing Regulation 1991, Electrical Act 1947, Roy Hill Electrical Safety Procedure and Operational Health and Safety risks associated with High Voltage are adequately identified, assessed, managed and reviewed.

This procedure covers the requirements for becoming a Roy Hill Authorised High Voltage Switching Officer, High Voltage Permit Issuer and High Voltage Permit Holder.

Included in this procedure are the definitions, training requirements, levels of authority, record keeping, personal protective equipment, documentation and statutory requirements to be adhered to at Roy Hill Mine operations.

This Procedure applies to all persons working at Roy Hill.

2 Personal Protective Equipment

It is a requirement of the MSIR 1995 4.1 that Personal Protective Equipment be provided by the Employer and it is the duty of all Employees to wear the provided PPE. The following High Voltage Personal Protective Equipment shall be worn while carrying out all manual Live High Voltage Switching, Live Testing and Testing for Dead.

- Proban 40 cal. Full Hood with tinted face shield.
- Proban 40 cal. Jacket and Pants.
- Correct Voltage rated insulated rubber gloves with leather protective outer gloves.
- Cotton Work Clothing.
- Clear Safety Glasses.

3 Levels of High Voltage Switching Authority

There are two levels of High Voltage Switching Authority (see [table 1 below](#)).

LEVEL	CIRCUIT	AUTHORITY
1	FEEDER	Able to switch and operate all High Voltage Feeder Circuits including Earths. Able to issue and hold High Voltage Access, Test and Vicinity Permits for High Voltage Feeder Circuits Able to Issue High Voltage Access, Test and Vicinity Permits for feeder circuits

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LEVEL	CIRCUIT	AUTHORITY
2	NETWORK	Able to switch and operate all High Voltage Feeder and Network Circuits. Able to issue and hold High Voltage Access, Test and Vicinity Permits for High Voltage Network and Feeder Circuits Approved to remote switch from PMS

Table 1: High Voltage Switching Authority

Emergency Operation and Coverage: Should the Company require a level 1 HVO officer to carry out emergency switching or operation of Network switchgear due to the absents of a Level 2 HVO, the Maintenance Superintendent or Manager shall issue a Temporary Level 2 Network appointment in writing after assessing the following;

- The Level 1 HVO has experience with the network equipment,
- The Level 1 HVO can demonstrate an understanding of the network system,
- The Level 1 HVO can demonstrate an understanding of the required actions,
- The Level 1 HVO accepts the temporary Level 2 Network appointment.

Note: This Temporary appointment shall only be valid for 24hrs.

4 High Voltage Switching Officer

To be appointed as an Authorised High Voltage Switching Officer the following training and competencies must be achieved. These requirements maybe updated and reviewed periodically by Roy Hill to accommodate changes in statutory or operational requirements.

4.1 Training Courses, to be eligible to be a restricted appointed HVO you would need the following

- High Voltage Switching Course (nationally accredited).
- An induction for the High Voltage procedure at Roy Hill operations (need to be developed)
- An electrical licence and a resume showing industry experience
To be able to perform switching in switchrooms the following are required
- Switchroom Entry Course.
- Low Voltage Rescue Course.
- Senior First Aid Course.

To become an unrestricted HVO you will be required to satisfactorily complete the following;

- 3 x switching programs written for High Voltage access Permits (Checked by an unrestricted person)
- 3 x execution of switching programs (switching) under the observation of an unrestricted person.
- 3 x High Voltage access permits issued
- 1 each of corridor access and test permit to show understanding of process
- At the completion of the above you would qualify to be VOC'd by a TAA

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4.2 Practice and Familiarisation Training

All proposed High Voltage Switching Officers need to spend time High Voltage Switching with an Authorised High Voltage Switching Officer and be able demonstrate competency and proficiency before proceeding to the VOC process.

4.3 VOC Competencies

All potential High Voltage Switching Officers Shall complete their VOC with the area Supervisor Electrical or Superintendent Maintenance Electrical. The VOC will comprise of;

- Demonstrate knowledge of all the High Voltage Switchroom or Substations safety features. E.g.
- Emergency stops, exits, safety equipment.
- Be able to identify High Voltage equipment and its purpose. E.g. Flag relays, Protection relays, Isolation points, Fortress key system and Lock out points.
- Being able to identify all the PPE requirements.
- Demonstrate the correct fitting of PPE.
- Demonstrate how to check High Voltage PPE for serviceability and damage.
- Operate a High Voltage Tester and set it to the correct voltage being tested.
- Use the High Voltage Tester.
- Being able to write a High Voltage Switching Program and explain it.
- Execute a High Voltage Switching Program as a practical demonstration. This is to include all aspects of isolation. E.g. fitting confirmation lock/locks, tag/tags and locking tool (hasp).
- Demonstrate High Voltage Manual Switching using the High Voltage Switch front panel and Switching Tools.
- Demonstrate High Voltage Remote Switching using the remote switching panel.
- Demonstrate High Voltage Remote Switching using the Power Management System (Network VOC only).
- Be able to explain the steps taken before resetting any High Voltage Trip.
- Identify and correctly enter details in all required High Voltage Switching Documentation and file the completed paperwork correctly.

4.4 Mine Record Entry

The authority to operate high voltage equipment must be appointed by the Registered Manager of the mine and recorded in the Mine Record Book as a High Voltage Switching Officer. The High Voltage Switching Officer shall sign the appointment in the Mine Record Book within 7 days of the appointment.

4.5 High Voltage Switching Officer Competency Refresher Periods

Refresher Courses are provided by Roy Hill as follows;

4.5.1 Yearly

- CPR refreshers are yearly
- Low Voltage Rescue

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4.5.2 Three Yearly

- High Voltage Switching (nationally accredited)
- Switchroom Entry
- Senior First Aid

5 High Voltage Record Keeping

It is a requirement of the MSIR 1995 that records are kept and are accessible for examination. High Voltage Records are required to be kept up to date and filed by the Area Supervisor Electrical for three years.

5.1 High Voltage Personnel Records

- High Voltage Switching Officers;
 - Name.
 - Signature.
 - Date of approval.
 - Authorised High Voltage Switching Level.
- High Voltage Permit Officers;
 - Name.
 - Signature.
 - Date of approval.
 - Permit they are able to hold.
 - Permit they are able to Issue.

5.2 High Voltage Equipment Records

- Each High Voltage Switchroom and Substation requires records are kept of all High Voltage Switching activities in a log book for that area. The purpose of this is to ensure that the High Voltage Switches are service according to the manufacturers O.E.M, MSIR 5.27 (1) (2a) and intervals of servicing can be maintained if use changes.
- Testing of the High Voltage Protection Relays.
- Testing of High Voltage Earth Leakage Systems.
- Testing High Voltage Earthing Systems.
- Testing of High Voltage Trailing Cables and Pilot Protection Relays.
- Transformer Oil Sampling.
- High Voltage Switchroom and Substation Inspections.

6 High Voltage Switching Programs

High Voltage Operations shall only be performed by Appointed High Voltage Switching Officers.

High Voltage Switching Programs which shall nominate their unique number, date of issue and stored location

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6.1 High Voltage Switching Categories

6.1.1 High Voltage Switching can be categorised into;

- **Simple** High Voltage Switching (Does not require High Voltage Switching Program);
 - Single and Multi-drive isolations
 - Isolations for simple mechanical tasks.
- **Complex** High Voltage Switching Operations; (Requires a High Voltage Switching Program);
 - Network Switching
 - HV Isolations which include fortress keys.
 - Any HV isolations which involve switching from multiple switchrooms or substations.

6.2 High Voltage Switching Program Requirements

A High Voltage Switching Program shall be a logical sequence of steps that are followed to safely isolate and de-isolate a piece of High Voltage plant or equipment for the purpose of maintenance, testing or repair. Each Switching Program needs to show the following;

- Location where the Switching is to occur i.e. Substation or Switchroom number.
- The unique Switching Program number obtained from the High Voltage Switching register.
- Reason for the High Voltage Switching.
- High Voltage Equipment identification that is to be switched.
- The Switching Program authors HV level, name and signature.
- The Switching Program checkers HV level, name and signature.
- The Switching Program authorisers HV level, name and signature, the authoriser must be the Supervisor Electrical or his Delegate.
- Logical sequence of isolation with all relevant steps. This must include notifying the Supervisor Electrical, mine control, network operator if/as applicable, all Switching actions, applying locks and tags, testing for dead and any Permit that are to be issued.
- Logical sequence of de-isolation with all relevant steps. This must include notifying the Supervisor Electrical, mine control, network operator if/as applicable, all Switching actions, removing locks and tags, and any Permit that are to be closed.
- Completed Switching Programs and Permit shall be returned to the area Supervisor Electrical, who shall retain that program and any associated documentation for a minimum of 3 years.

7 Permit

7.1 High Voltage Access Permit

- A High Voltage Access Permit is used when accessing Isolated High Voltage Equipment where Earths are in place and or where Earths are lifted for the purpose of testing or servicing. e.g. electrical motor insulation testing
- A High Voltage Access Permit shall only be issued by a Appointed High Voltage Switching Officer.
- A High Voltage Access Permit shall only be held by an Appointed High Voltage Switching Officer.

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- A High Voltage Access Permit shall not be used in conjunction with High Voltage Test Permit.
- A High Voltage Access Permit shall be used in conjunction with a Simple Isolation or Group Isolation
- High Voltage Access Permit which will nominate their unique number, the date of issue and stored location.

7.2 Issuing High Voltage Access Permit

7.2.1 Conditions Prior to Issuing a High Voltage Access Permit;

- The area Supervisor Electrical and Control (Processing) or Operation and Maintenance Supervisors (Port) have been notified.
- JHA has been completed identifying all hazards for the work to be carried out by the High Voltage Access Permit holder and the work party members.
- Any special requirements and preparation such as barricading area available for placement.
- For any complex isolation situation an authorised High Voltage Switching Program is written and switching has been completed accordingly.
- A Group Isolation has been written and executed or a simple isolation has been executed.

7.2.2 Issuing High Voltage Access Permit

- A High Voltage Access Permit shall be raised by an Authorised High Voltage Permit Issuer in conjunction with a High Voltage Access Permit Holder at the work area.
- The High Voltage Permit Issuer in consultation with the High Voltage Access Permit Holder shall ensure that the High Voltage Access Permit is completed correctly, indicating the equipment to be isolated, placement of Earths, Group Isolation number if a group isolation is used and purpose for which the access is required.
- The High Voltage Permit Issuer and High Voltage Access Permit Holder shall ensure that the equipment is tested, proven dead, and required Earths are applied.
- The High Voltage Permit Issuer and High Voltage Access Permit Holder shall confirm each Isolation Point, and check an Isolation Lock and Tag are in place.
- The High Voltage Permit Issuer shall identify the Isolation Points and position of applied Earths on a single line diagram attached to the High Voltage Access Permit.
- The High Voltage Permit Issuer shall tick the designated boxes on the Permit to acknowledge:
 - Isolation of all of the nominated equipment has been verified.
 - They have checked the correct Permit number and lock number appear on the Permit Tags
- The High Voltage Permit Holder shall sign the High Voltage Access Permit and fill in the date and time to acknowledge validity and acceptance of the High Voltage Access Permit.
- The High Voltage Permit Holder shall:
 - Ensure that Working Earths are placed as required.
 - Record on the High Voltage Access Permit the number of Working Earths placed.
 - Instruct the Working Party on the conditions of the Permit.
 - Sign the Permit to confirm these steps are completed.
- The High Voltage Access Permit shall be kept with the working party at all times

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- Where Isolation Earths are in full view of the Working Party they may be deemed as Working Earths.

7.2.3 Signing On and Off High Voltage Access Permit

All Personnel who want to sign onto a High Voltage Access Permit shall:

- Obtain the permission of the High Voltage Permit Holder holding the access Permit. He will instruct the individual or working party on the conditions of the High Voltage Access Permit.
- Read the JHA, understand the hazards and controls then sign onto the JHA.
- Be shown the location of points of supply and the proximity of any live Electrical Equipment.
- Be shown all the points of isolation and earthing for the task.
- Demonstrate to the High Voltage Permit Holder a satisfactory understanding of the safe area of work covered by the High Voltage Access Permit.
- Apply their danger lock and danger tag to the Simple Isolation or Group Isolation board and sign onto the Group Isolation.
- Be supervised signing onto the correct High Voltage Access Permit by the High Voltage Access Permit Holder.
- When persons signed onto the High Voltage Access Permit leave the area or at the end of their shift, they shall notify the High Voltage Access Permit Holder, then sign off the High Voltage Access Permit and Group Isolation Permit and remove their Personal Danger Lock and Danger Tag from the Lockout Station or simple isolation.

7.2.4 Transferring High Voltage Access Permit

- The current High Voltage Access Permit Holder shall advise the new High Voltage Access Permit Holder of any special circumstances that apply to the Permit at that time, and note such advice on the High Voltage Access Permit in the space provided.
- The current High Voltage Access Permit Holder shall sign, date and time mark the High Voltage Access Permit form in the transfer space.
- The new High Voltage Access Permit Holder shall print their name and shall sign, date and time mark the Access Permit to accept responsibility for the Permit.
- Personnel are NOT required to sign off or remove their lock during this procedure.

7.2.5 Cancelling a High Voltage Access Permit

7.2.5.1 All members of the Working Party shall:

- Inspect the work area ensuring that all tools, parts and debris have been removed and the equipment is in a safe condition.
- Sign-off the High Voltage Access Permit in the column adjacent to their sign-on signature.
- Remove their Personal Danger Locks and Danger Tags from the Simple isolation or Lockout Station and sign off the Group Isolation.

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7.2.5.2 The High Voltage Access Permit Holder shall:

- Inspect the work area ensuring that all tools, parts and debris have been removed and the equipment is a safe condition to return to service. If not serviceable an Out Of Service tag or tags have been placed on all Isolation Points.
- Ensure all working Earths have been removed.
- Inspect the High Voltage Access Permit to confirm all signatures in the sign-on column have a corresponding identical signature in the sign-off column.
- Verify all Personal Danger Locks and Danger Tags have been removed from the Simple Isolation or Group Lockout Station and have signed off the Group Isolation Permit.
- Sign, date and time mark the High Voltage Access Permit in the sign off area.
- Return the cancelled High Voltage Access Permit to a High Voltage Permit Issuer.

7.2.5.3 The High Voltage Access Permit Issuer shall:

- Sign, date and time mark the High Voltage Access Permit in the sign off area.
- Liaise with the Group Isolation officer or Simple Isolation officer to cancel the Isolation.
- De-isolate the equipment in accordance with the relevant Switching Program and/or nominated isolation points on the High Voltage Permit.
- Return all Permit Locks and Keys to the Group Lockout Station.
- Forward the completed Switching Program (if written) and cancelled High Voltage Access Permit to the relevant Supervisor Electrical for filing.

7.2.6 Special Conditions

7.2.6.1 Sign On/Off Section or Transfer Section Becomes Full

If the sign on section of the High Voltage Access Permit becomes full, then another High Voltage Access Permit sheet can be stapled to the original Permit referencing the original Permit number and having its number line out. The new sheet/sheets shall be endorsed "Sign On Section Extension sheet". This Shall be actioned by the High Voltage Permit Issuer.

7.3 High Voltage Test Permit

- A High Voltage Test Permit is used for Live High Voltage Testing Only e.g. Phase rotation testing at bus ties or when new transformers have been fitted. Most new High Voltage facilities have other ways to carry out this work now.
- A High Voltage Test Permit shall only be issued by an Authorised High Voltage Permit Issuer. A High Voltage Test Permit shall only be held by an Authorised High Voltage Permit Holder
- A High Voltage Test Permit shall not be used in conjunction with a High Voltage Access Permit
- A High Voltage Test Permit shall not be used in conjunction with a Personal Isolation.
- High Voltage Test Permit which will nominate their unique number, the date of issue and stored location.

7.4 Issuing High Voltage Test Permit

7.4.1 Conditions Prior to Issuing a High Voltage Test Permit;

- The area Supervisor Electrical and Control have been notified.

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- JHA has been completed identifying all hazards for the work to be carried out by the High Voltage Test Permit holder and the work party members.
- Any special requirements and preparation such as barricading are in place.
- All Under Test Tags have been placed where required.
- For any complex isolation situation an authorised High Voltage Switching Program is written and switching has been completed accordingly including any HV test permit.

7.4.2 Issuing High Voltage Test Permit

- High Voltage Test Permit shall be raised by a High Voltage Permit Issuer in conjunction with an authorised High Voltage Test Permit Holder at the work area.
- The High Voltage Permit Issuer in consultation with the High Voltage Test Permit Holder shall ensure that the High Voltage Test Permit is completed correctly, indicating the equipment to be tested, Group Isolation number (if in place) and purpose for which the Test is required.
- The High Voltage Permit Issuer and High Voltage Test Permit Holder shall ensure that the equipment is in a safe condition for the purpose of testing.eg access clear, Barricades in place, Emergency plan in place for tripping power.
- The High Voltage Permit Issuer shall identify the test points and other Switching conditions are shown on a single line diagram attached to the High Voltage Test Permit.
- The High Voltage Test Permit Holder shall check any test tags are in place and the area is secured.
- The High Voltage Test Permit Holder shall sign the High Voltage Test Permit and fill in the date and time to acknowledge validity and acceptance of the High Voltage Test Permit.
- The High Voltage Test Permit Holder shall instruct the working party on the conditions of the Permit.
- The High Voltage Test Permit shall be kept with the working party.

7.4.3 Signing On and Off a High Voltage Test Permit

7.4.3.1 Personnel who want to sign onto a High Voltage Test Permit shall:

- Obtain the permission of the High Voltage Test Permit Holder, who will instruct the individual or Working Party on the conditions of the High Voltage Test Permit.
- Be satisfied that the relevant safety precautions have been taken by reading and signing onto the JHA and inspecting the work area.
- Identify the location of points of supply and the proximity of any live Electrical Equipment.
- Demonstrate to the High Voltage Permit Holder a satisfactory understanding of the safe area of work covered by the High Voltage Test Permit.
- Be supervised signing on to the High Voltage Test Permit by the High Voltage Test Permit Holder.
- Placed their personal danger locks and danger tags on the Lockout Station and have signed onto any associated group isolations. (HV test permit)

7.4.4 Cancelling a High Voltage Test Permit

7.4.4.1 All members of the Working Party shall:

- Inspect the work area ensuring that all tools, parts and debris have been removed and the equipment is in a safe condition.
- Sign-off the High Voltage Test Permit in the column adjacent to their sign-on signature.

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- Remove their Personal Danger Locks and Danger Tags from the Lockout Station and sign off the Group Isolation.(HV Test permit)

7.4.4.2 The High Voltage Test Permit Holder shall;

- Inspect the work area ensuring that all tools, parts and debris have been removed and the equipment is a safe condition to return to service. If not serviceable an Out Of Service tag or tags have been placed on all Isolation Points.
- Inspect the High Voltage Test Permit to confirm all signatures in the sign-on column have a corresponding identical signature in the sign-off column.
- Verify all Personal Danger Locks and Danger Tags have been removed from the Lockout Station and have signed off the Group Isolation.
- Sign, date and time mark the High Voltage Test Permit in the sign off area.
- Return the cancelled High Voltage Test Permit to a High Voltage Permit Issuer.

7.4.4.3 The High Voltage Permit Issuer shall;

- Sign, date and time mark the High Voltage Test Permit in the sign off area.
- De-isolate the equipment in accordance with the relevant Switching Program and/or nominated isolation points on the High Voltage Permit.
- Forward the completed Switching Program (if written) and cancelled High Voltage Test Permit to the relevant Supervisor Electrical for filing.

7.4.5 Transferring a High Voltage Test Permit

- There is no provision for transferring a High Voltage Test Permit.

7.4.6 Special Conditions

7.4.6.1 Sign On/Off Section Becomes Full

- If the sign on section of the High Voltage Test Permit becomes full, then another High Voltage Test Permit sheet can be stapled to the original Permit referencing the original Permit number and having its number line out. The new sheet/sheets shall be endorsed "Sign On Section Extension sheet".

7.5 High Voltage Vicinity Permit

A High Voltage Vicinity Permit is required for any work performed in close proximity to High Voltage Electrical Equipment, where any part of a person, equipment or machinery is capable of encroaching the Safe Approach Distance. Refer to Document No OP-PRO-00040 Electrical Safety Management 2.2.1 and MSIR1995 section 5.28 and its referenced documents.

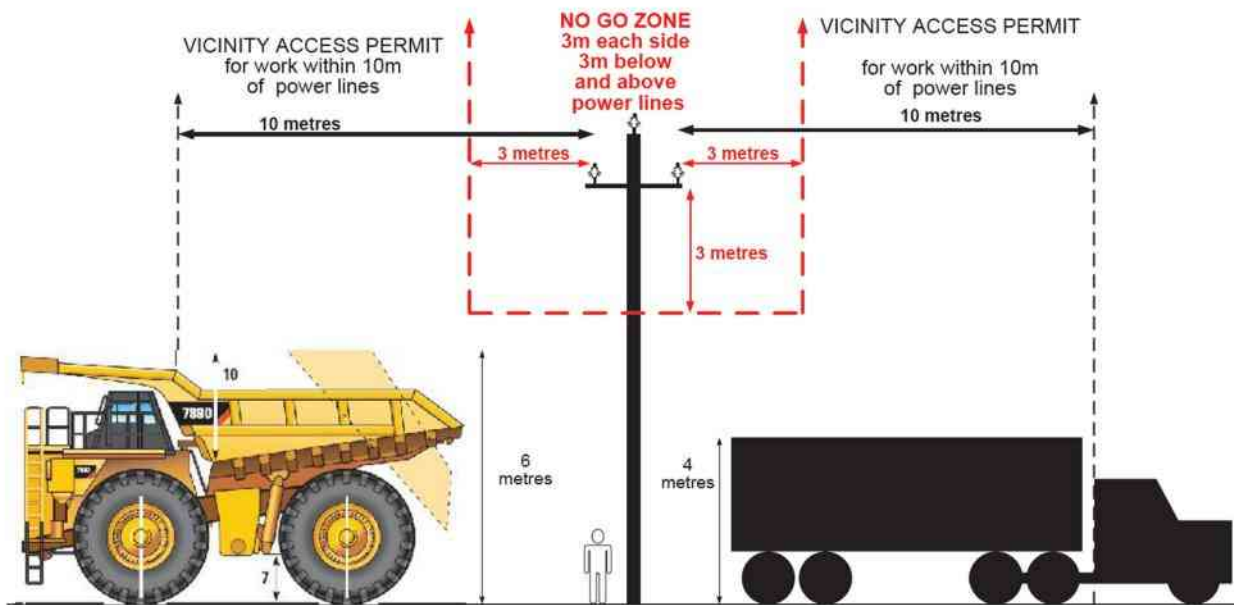
The below illustration outlines the Vicinity access and no go areas;

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7.5.1 Rules for High Voltage Vicinity Permit

High Voltage Vicinity Permit shall only be raised and cancelled by a High Voltage Permit Issuer, authorised for the Electrical Equipment in the vicinity of which the work will be performed.

An authorised High Voltage Vicinity Permit Holder shall be responsible for ensuring all High Voltage Vicinity Permit requirements are correctly followed for High Voltage Vicinity Permit under their control.

Completed High Voltage Vicinity Permit must be returned to the Supervisor Electrical for filing.

7.5.1.1 Conditions Prior to Issuing a High Voltage Vicinity Permit

- A request for approval and sign off Shall be presented to the area Supervisor Electrical which includes;
 - Scope of all proposed work.
 - Drawing marked up with the work area.
 - Completed and Approved J.H.A.
 - Barricading layout for the work area.
 - Traffic management plan for the work area.
- Sign off by the Production Supervisor for the area.
 - The Authorised High Voltage Vicinity Permit Holder must demonstrate/present to the High Voltage Vicinity Permit Issuer;
 - Supervisor Electrical signed approval.
 - Production Supervisors signed approval.
 - Scope of all proposed work.
 - Drawing marked up with the work area.
 - Completed and Approved J.H.A.
 - Barricading layout for the work area.
 - Demonstrate full understanding of the High Voltage Vicinity Permit scope and limitations.

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7.5.1.2 Raising a High Voltage Vicinity Permit

- The High Voltage Permit Issuer shall enter the following information on the Vicinity Permit:
 - The authorised work and work area.
 - The time and date for commencement of the Vicinity Permit.
 - The term for which the Vicinity Permit shall remain valid.
- The High Voltage Vicinity Permit Holder shall sign to accept the Permit.
- The High Voltage Vicinity Permit Holder shall implement all precautions and actions listed on the Vicinity Permit.
- High Voltage Vicinity Permit which will nominate their unique number, the date of issue and stored location. To be stored by the permit co-ordinator.

7.5.1.3 Signing On and Off High Voltage Vicinity Permit

The High Voltage Vicinity Permit Holder shall;

- Ensure the working parties have all read, understood and signed onto the JHA.
- Ensure that all persons wishing to work in the area covered by the High Voltage Vicinity Permit sign onto The High Voltage Vicinity Permit before commencing work and sign off when leaving the area or at job completion.
- Instruct the working party on the limits of the safe working area, placing particular emphasis on locations of live Electrical Equipment.

7.5.2 Transferring of High Voltage Vicinity Permit

- Must be carried out with both High Voltage Vicinity Permit Holders present.
- The incoming and outgoing High Voltage Vicinity Permit Holders shall sign the transfer section.
- Personnel are not required to sign off during this procedure.

7.5.3 Cancelling a Vicinity Permit

The Vicinity Permit Holder shall;

- Ensure all members of the Working Party sign off the Vicinity Permit.
- Ensure the area of work is left in a safe condition, ensuring no hazards are present.
- Sign to relinquish the Vicinity Permit.
- Return the High Voltage Vicinity Permit to an authorised High Voltage Permit Issuer and notify them work is complete.
- Notify the area Supervisor Electrical the work is completed and the Permit is closed.
- Notify the area Production Supervisor the work is completed and the Permit is closed.

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8 Definitions

Term	Definition
High Voltage	As Defined in AS/NZS 3000:2007 section 1.4.98 and MSIR 1995 section 5.1; is classified as voltages exceeding 1000VAC or 1500VDC. Areas housing electrical equipment are covered under MSIR 1995 Section 5.5 under unauthorised entry. Entry to any High Voltage area is strictly controlled and all personnel must be authorised by the area Supervisor Electrical prior to any access being granted.
Appointed	Written permission from the Work Area Manager or delegate to carry out specific tasks.
Competent Person	A person who is appointed or designated by the employer to perform specified duties which the person is qualified to perform by knowledge, training and experience.
Contractor	Any firm or any person not an employee of a Roy Hill Holdings, commissioned to do work on a Roy Hill controlled facility.
Earthed	Connected to the general mass of earth
Supervisor Electrical	A qualified electrical person who meets the requirements under the MSIR 1995 section 5.10 and is appointed by the Mine Registered Manager to oversee all electrical safety, electrical installations, electrical maintenance, electrical equipment and electrical workers on the mine site.
Danger Tag	Tag used for personal protection in conjunction with a personal danger lock applied to an isolation point in accordance with the isolation and tagging procedure.
Dead	Any Isolated Electrical Equipment which is at earth potential.
De-isolate	Reconnect or energise previously isolated equipment.
Electrical Equipment	Any Equipment or cabling system that uses or carries an electrical current.
Group Isolation	Procedure covering the isolation of a group of equipment for the purpose of work allowing multiple persons to apply their danger lock and danger tag on the one point.
High Voltage (HV)	Electrical voltage greater than 1000Va.c. or 1500Vd.c.
High Voltage Access Permit	A documented form which authorises Testing of isolated High Voltage Electrical Equipment or work on Isolated and earthed equipment.
High Voltage Test Permit	A documented form which authorises Testing of Live High Voltage Electrical Equipment.
High Voltage Vicinity Permit	A standard form which allows work to be performed in the vicinity of High Voltage Electrical Equipment, where any part of persons, equipment or machinery is capable of encroaching the minimum Safe Approach Distance.
High Voltage Switching Officer	An Electrician Authorised to Isolate and De-isolate High Voltage Electrical Equipment. Issue HV permits and accept HV permits.
High Voltage Permit Issuer	A High Voltage Switching Officer authorised to issue, accept, transfer and relinquish High Voltage Access Permit, Vicinity Permit and Test Permit.
High Voltage Vicinity Permit Holder	A person who has completed a High Voltage vicinity Permit course and has been authorised under the Roy Hill procedure to hold a High Voltage vicinity Permit.

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High Voltage safety observer	An appointed High Voltage Switching Officer whose main task is to observe and verify the execution of switching and the issuing of High Voltage permits
Recipient in charge	A competent person who has been inducted to accept and hold High Voltage permits to perform work.
High Voltage Permit Holder	A High Voltage Switching Officer authorised to accept, transfer and relinquish High Voltage Access Permit, Vicinity Permit and Test Permit. High Voltage Access Permit, Vicinity Permit and Test Permit.
Isolate	Disconnect all hazardous energy sources to a piece of equipment.
Isolation Earth	An earth system that bonds a piece of equipment to the greater mass of earth.
Isolation Point	A point where an energy source can be disconnected and locked out.
Isolation Procedures	A system of rules, procedures and principles, within Roy Hill, that controls the isolation and lockout of potentially hazardous sources of energy prior to commencing work.
Job Hazard Analysis (JHA)	A process for systematically identifying all the hazards associated with each step of a task and to implement appropriate control measures in order to prevent harm to people, property or environment.
Live	Any Electrical Equipment which is charged at a potential different from that of earth.
Lock Holder	A person only authorised to place a Personal Danger Lock onto an isolation point or lock out station while being supervised by an Isolation Officer or Permit Officer/Administrator. Note: Lock Holders are not authorised to perform Isolations
Locked Out	An Isolation Point that has been decoupled, and/or de-energised and locked to prevent reenergising.
Lockout Station	A purpose built, lockable box containing the Isolation Locks & Key, used to facilitate the Group Isolation process
Registered Manager	Appointed manager
Out of Service Tag	Tag used by personnel to indicate that the plant and or equipment is out of service and shall not be operated.
Shall	Shall is to be interpreted as a mandatory instruction.
Switching Program	A document used by a High Voltage Switching Officer, which identifies a logical order of steps to safely switch High Voltage equipment and apply isolation locks and tags as required.
Under Test Tag	A printed tag which is attached to each Isolation Point, identifying Test Permit and Permit Officer details.
Working Earth	An earth connection, close to and in full view of a Working Party, installed between the Working Party and one or more points of Isolation, to limit any rise in potential at the worksite.

Table 2: Definitions

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9 References

Document number	Title
	Mine Safety Inspection Regulation 1995
	AS/NZS 3000:2007
	AS2067-2008
	AS2467-2008
	AS/NZS 3820:2009
	AS/NZS 3007:2013
OP-MAN-00018	Isolation and Tagging Manual
OP-STD-00195	Health, Safety, Emergency and Security Performance Standards <ul style="list-style-type: none">• Performance Standard 06 – Isolation of Equipment• Performance Standard 05 – Working with Electricity

Table 3: References

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