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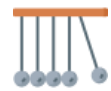
COURSE TITLE: Safe Work and Permitting System

SCHOOL: Science and Engineering

ATLANTIC INTERNATIONAL UNIVERSITY

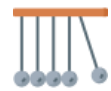
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Safe Work and Permitting System.





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First of all, I am grateful the opportunity to study in peaceful Doctorate in Safety Engineering at Atlantic International University.

I would like to express deepest appreciation to Dr. Franklin Valcin, Dr. Edward Lambert, Mr. Renato Cifuentest and Mr. Leonardo Salas who guided me throughout the researched and providing me with all necessary information and facilities.

I also thanks Mr. Sylvester Ndaloma Admission Counselor who helped me achieving entre to study Doctorate in Safety Engineering program at AIU.

Policy Statement

I believes the Safety and Health of all the people associated with its activities is paramount to a successful business.

Purpose

The industries, companies and Sectors business are committed to building and maintaining a “Safety and Health” culture within the site and the organization which emphasizes the prevention of incidents and the minimization of risks.

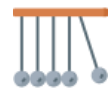
The Industries, Companies or Sector business shall have and maintain a Safe Work, Isolations and Permitting System based upon quality principles that are consistent throughout the workplace and environment.

Scope

The Safe work and Permitting system document will includes to facilities and leases for Company and Contractors employed shall abide by this code of practice and procedure shall meet or exceed the minimum requirements of the Company code of practices and have it authorized by Management or his designated prior to utilization.

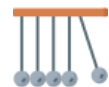
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1. Introduction

The Safe Work and Permitting System is importance and recognizes the commitment of Business, Companies, and industries to provide a safe working environment for employees and contractors alike.

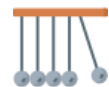
For these procedures to be effective, all persons, regardless of position or place of work, shall commit themselves to providing the conditions necessary for safe working and encouraging the development of a “think safety” attitude, which shall encompass not just their own safety, but the safety of others to compliance with Safe Work, Isolations and Permitting System.

It is the duty of all persons, who may be concerned with the control of the preparation of and the carrying out of work on the equipment to which these procedures apply are to make themselves thoroughly familiar with these procedures.

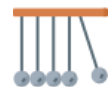
2. Definitions

The following table lists the definitions that are used throughout this system.

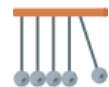
Absent person	A person who, for any reason, is absent from the workplace at the time equipment is ready and safe to be returned to service.
Authorized Isolator	A person who is authorized in writing by the Management such as Manager, Supervisor or designate as being competent in isolation, tagging and safe work permit procedures. Isolators fall into 5 categories: <ul style="list-style-type: none"> • Isolation Verifier • Level 1 Isolator • Level 2 Isolator • Level 3 Isolator • Permit Issuer
Confined Space	A confined space is an enclosed or partially enclosed space that: <ul style="list-style-type: none"> • Is not a normal place of work • Has been identified as such in a JSEA or SWP • May have restricted entry and exit. • May have an atmosphere which constrains potentially harmful levels of contaminant. • May not have a safe level of oxygen • May cause entrapment or engulfment Confined Spaces may include, but are not limited to: <ul style="list-style-type: none"> • Storage tanks, process vessels, boilers, pressure vessels, and tank-like compartments.



	<ul style="list-style-type: none"> • Open-topped space such as tanks, thickeners, clarifiers, flotation cells, pits or grease traps, or excavations more than 1.5 meters deep. • Pipes, pumps, sewers, shafts, ducts, tunnels, cellars, basements and similar structures. • Abandoned mine workings and exploration audits.
Construction	Any activity which involves the fabrication, erection, installation, excavation, modification and commissioning of any equipment or area by any contractor or company which is not legally the responsibility of the Management (Manager, Team Leader, Supervisor).
Contaminant	Contaminant is any dust, fume, mist vapor, gas, liquid or other substance, the presences of which may be harmful to health and safety.
Controlled task	A task that is controlled by the Safe Work Isolation and Permit system.
Designate	A person who has been authorized by the management to perform functions which are normally carried out by that person's supervisor.
Electrical apparatus	Any item of electrical equipment, including electrical cable and wire, transformers, switchgear, control gear and machines which have electrical components which are live or an be made live.
Emergency rescues plan	a contingency plan drawn up and approved by the Emergency Response Team to rescue personnel from a confined space in the event of an emergency.
Equipment	Fixed or mobile plant, electrical apparatus and mechanical machinery.
Hazardous substances	Hazardous substance including but are not limited to , gases, vapors, solids and liquids that may cause injury or death if handled, stored or used incorrectly.
Hot work	Any welding, burning, heating, cutting, grinding, use of spark generating power tools or creation of an ignition source which has the potential to cause personal injury, equipment damage, fire or explosion.
High Voltage	High Voltage – any voltage exceeding 100Vac or 1500Vdc
High Voltage Access/ Vicinity Permit	A permit to gain access to high voltage electrical apparatus
High Voltage Isolation	A suitably certified person who is authorized by the Manager or designate to operate High Voltage circuit breakers
Isolated	Disconnected from all sources of energy and equipment and tagged as such using approved isolation methods.
Isolation point	A point at which equipment is to be isolated in order to make it safe to be worked on.
Isolation proven	Confirmation that a drive is isolated by attempting to start it or equipment is drained and or depressurized.



Isolation Registration Sheet (IRS)	IRS is a document listing the isolation points and the type of isolation that shall be performed at each isolation point and the hazard control measures to be implemented prior to the issue of a Safe Work Permit or a related Certificate for designated work.
Isolation Tag	A blue and white tag which incorporated the words DANGER, ISOLATION TAG AND DONOT OPERATE.
Isolation Lock or Isolators Lock.	A keyed alike lock used solely for sealing a lock box. Keys to these lock are issued only to authorized isolators
Isolation Verifier	An authorized verifier is deemed competent and has familiarity with the area to verify all isolations placed by an authorized isolator, this person may or may not be authorized to perform isolations in the area and will have an understanding of the LXML-SEP-HSS-006-SPR-003 SWIPS Authorized Isolator training Procedure.
Job Safety Environment Analysis	Job Safety Environment Analysis a process whereby a task is broken down into a number of steps. Each step is analyzed to identify any hazards, the risk and control measures that eliminate or reduce the risk.
Keyed Alike Lock	Isolation Locks which have a common key.
Live	Refers to any equipment that is charged at a potential different from that of the Earth or that contains pressure different to atmospheric or that is operational.
Lock Box	A Box that is used to secure the keys to isolation locks
Main Circuit Breaker	A Circuit breaker which when open, prevents the transmission of current / voltage to equipment and maybe used as a positive isolation point fro work on that equipment.
Mine Workings	The area within the mine perimeter that is under excavation for the purposed of extracting ore and waste rock.
Multiple Lockout Device	A combination of hasp and lanyard used to isolate and lock out valves.
Out of Service Tag	A black and yellow tag that incorporates the words CAUTION, OUT OF SERVECE AND DONOT USE OR OPERATE.
Permit Holder	A person who, in receipt of a permit and is responsible for communication of relevant information to Work Group.
Personal Isolation Lock and Tag	A personal lock and a red and white tag which incorporates the words DANGER, DONOT OPERATE and PERSONNAL DANGER TAG. These are attached to Lock boxes for personal lock on.
Permit	Non- intrusive mechanical and electrical checks on equipment that can be done whilst the equipment is live. PM's include but are not limited to: <ul style="list-style-type: none"> • Lubrication checks • Substation checks



	<ul style="list-style-type: none"> • Crane checks • Thermo graphic inspections
Radiation Source	Any material which spontaneously emits nuclear radiation.
Radiation Officer	A person who is deemed competent in writing by the Radiological Council of Western Australia to qualify them for the position and who has been authorized by the management (Manager or Designate)
Recipient	A person, who has been nominated to carry out specific duties as authorized by the Management (Manager or Designate)
Safe Work Permit	A safety document which specific the equipment to be worked on, the scope of work to be carried out and the actions required to achieve this safely.
Shall	Is to be interpreted as mandatory
Sub - Zero Liquid and Gas Work	Any work, which may expose persons to sub cryogenic liquids or gases or to the surfaces of equipment holding or transporting such gases and liquids.
Work Group	Any individual or group performing work.
Work Group Supervisor	The person responsible for the Work Group performing work.
Work at Height	Any Work undertaken as per the work at Height standard.

3. Work Permits and Isolation Registration Sheets

3.1. Introduction

The Safe Work Permit, preparation clearances and associated isolation procedures described in this manual are designed to ensure that all hazards associated with controlled tasks are identified and measure implemented to control those hazards.

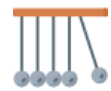
Associated with the safe Work Permit are a series of preparation permits for the control of specific hazards. These include: Hot Work Clearance, Sub Zero Liquid and Gasses Clearance, Grid Mesh Removal Clearance, Work at Heights Clearance, V Access Permits and UXO.

3.2. The Safe Work Permit.

3.2.1. Purpose

The purpose of a Safe Work Permit to work is as follows:

- Provide documentation of the required hazard control measures for a controlled task
- Provide indication that the required hazard control measures have been completed by those responsible for their implementation.



- Provide identification of the individuals responsible for the control and execution of the controlled tasks.
- Provide clearance for individuals to begin work on controlled tasks. Provides a formal means of handover
- Ensures that the hazards of the task, process considerations and introduced hazards are also addressed and control measures installed
- Provide indication that controlled tasks have been completed and that plant/equipment is safe to return to service.

3.2.2. Application and Requirements

A Safe Work Permit is required for the control of all work done in the Process Plant for the following reasons:

- The equipment involved may represent a hazard to Work Groups, either by its operation, exposure to hazardous substances or by its energy source.
- The equipment involved may impact on the production requirements of that area

A Safe Work Permit is not required for the control of:

- Routine process duties
- Routine maintenance, machining, fabrication, or testing in workshops, offices or domestic dwellings.
- Mobile equipment maintenance.
- Non-intrusive PM checks that do not require an isolation

3.2.3. Responsibilities of a person issuing and authorizing a Safe Work Permit

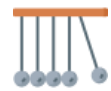
A Safe Work Permit shall only be issued and authorized by a Permit Issuer who is deemed competent in the Area as per the Isolation Training Procedure.

All Safe Work Permits shall clearly identify the equipment to be worked on; the scope of work to be performed, the safety instructions and personal protective equipment (PPE) required to do the work safely

A Safe Work Permit shall not be issued unless the Work Group has completed a JSEA or submitted a current SOP to the Permit Issuer for the work to be carried out.

A Safe Work Permit shall not be authorized until the equipment to which it refers to has been made safe.

It is the responsibility of the Isolator to ensure the Safe Work Permit has been prepared correctly and legibly.



Once authorized for use, a Safe Work Permit shall not be amended. If the conditions in the work area or scope of work under the control of a Safe Work Permit change, the Permit shall be returned to the Permit Issuer to be cancelled and a replacement permit issued with the required amendments.

On completion of work the Permit Issuer shall request a briefing from the Permit Holder as to the work performed under the control of the permit, as to the status of equipment or work done before canceling or suspending the Safe Work Permit.

A safe work permit must be cancelled or suspended at the end of each shift.

It can be reactivated by the next shift by signing on to the Permit reinstatement section provided on the Safe Work Permit. Refer to section 8.1 Rules and Variations for full details.

Once the Safe Work Permit has been cancelled and the equipment is ready to be returned to service, the authorized Isolator may remove all isolation tags and de-isolate the equipment.

3.2.4. Responsibilities of a Work Group applying for and receiving a Safe Work Permit

A Work Group applying for a Safe Work Permit must complete a JSEA or submit a current SOP which includes the scope of work to the Permit Issuer before the permit is issued.

A Work Group receiving a Safe Work Permit shall be familiar with the scope of work and shall have the competency to complete the work safely.

A Work Group receiving a Safe Work Permit shall have satisfactorily completed the Introduction to SWIPS 1,2 & 3.

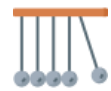
A Work Group member, having received and signed on the Safe Work Permit shall become the Permit Holder.

A Work Group who is to work under the control of a Safe Work Permit shall not begin work until all risks have been assessed, the isolations completed, Personal Lock and Danger Tags are placed on the relevant lock box and the permit authorized by the signature of a Permit Issuer

The Permit Holder shall hold on the site of work the original permit document until completion of the work or for the duration indicated. The green copy shall be placed on the Lock Box and the blue copy remains in the Permit Book

A Work Group performing work under the control of a Safe Work Permit shall only work on the equipment specified, for the duration indicated.

On completion of the work, or expiration of the Safe Work Permit, the Permit Holder shall report the status of equipment or work done to the Issuer who will then cancel the permit.



It is the responsibility of the Permit Holder to ensure all Personal Lock and Danger Tags placed on isolation points are removed prior to cancellation of the permit.

It is the responsibility of the Work Group to ensure that the work area is left in a safe condition upon completion of work.

3.3. Preparation Permits

3.3.1. Hot Work Clearance

3.3.2. To ensure that a Work Group who is assigned Hot Work is aware of all hazards relating to that work and of the hazards management required to enable completion of work safely.

To provide a system to manage the risk of fire or explosion for work that involves welding, burning, heating, cutting, grinding use of spark generating power tools, or the creation of an ignition source.

To ensure that the Operation Supervisor or designate is aware of all Hot Work to be undertaken within their area of responsibility.

3.3.3. Application and Requirements

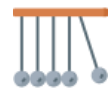
A work group shall require a Hot Work Clearance when:

- The Hot Work involved is within an area other than a workshop equipped for fabrication, or a designated Hot Work area. Designated Hot Work areas shall be defined by the General Manager or designate.
- The work involved may create a fire or explosion hazard.
- The use of any tool or item of equipment that has the possibility of generating a spark or other source of ignition when performing work associated with a Sub-Zero Gases and Liquid Work Clearance

The Authorized Isolator and the Holder of the work to be performed under the control of a Hot Work Clearance shall conduct a JSEA of the Work and inspection the work area to identify any hazards and the fire suppression equipment required. Pursuant to the JSEA, the issuer shall stimulate the type of fire suppression equipment required on the Hot Work Clearance.

The Permit Holder shall ensure the required fire suppression equipment is available at the work area and ensure that the Work Group is proficient in its use or is accompanied by persons trained in its use.

It is the joint responsibility of the Permit Issuer and the Work Group working under the control of the Hot Work Clearance to ensure that all



appropriate fire prevention measures are taken. Where equipment is vulnerable to damage from Hot Work, it shall be adequately protected

3.4. Sub-Zero Liquid and Gas Work Clearance

3.4.1. Purpose

To ensure that a Work Group who is assigned Sub-Zero Liquid and Gas Work is aware of all hazards relating to that work and of the hazard management required for performing the work in a safe manner.

To provide a system of protection for personnel and equipment involving work with liquids or gases at sub-zero temperatures.

To ensure that the Operations Supervisor or designate is aware of all Sub-Zero Liquid and Gas

Work to be undertaken within their area of responsibility.

3.4.2. Application and Requirements

A Work Group shall require a Sub-Zero Liquid and Gas Work Clearance when working with equipment containing liquids or gases at sub-zero temperatures or surfaces at sub-zero temperatures.

It is the joint responsibility of the Permit Issuer and the Permit Holder of the work to be performed under the control of the permit to ensure that any risk control measures as identified, are implemented.

3.5. Confined Space Entry Clearance

3.5.1. Purpose

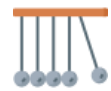
To ensure that a Work Group who is assigned work in a confined space is aware of all hazards relating to the confined space and of the hazard management required to work in the confined space safely.

- To provide a system where entry and exit to the confined space is monitored, regulated and recorded.
- To ensure that the atmosphere in a confined space is safe at all times.
- To ensure that a Work Group working in a confined space has access to emergency services if required.

Note: A confined space emergency rescue plan must be filled out prior to entry of a confined space and be authorized by a SERT Team member.

3.5.2. Application and Requirements

A Confined Space Entry Clearance shall at all times be issued under the control of a Master Isolation Registration Sheet which has been authorized and complies with the isolation standard 4.4



A sentry shall be positioned at the entry/exit point at all times whilst a Work Group is inside the confined space. They shall maintain periodic visual contact with the Work Group inside the confined space and shall not attempt to enter the confined space.

The sentry shall have completed the LXML Sepon Confined Space Controllers course.

The sentry shall be familiar with the LXML Sepon emergency response procedures and shall carry communications equipment to facilitate contact with the Sepon Emergency Response Team (SERT) if required.

All confined space entry shall be preceded by atmospheric testing as identified in a JSEA/ SOP and subsequent periodic monitoring to ensure that the atmosphere is safe at all times. The results of atmospheric monitoring shall be recorded on the Atmospheric Monitoring Log Sheet. This log sheet shall be controlled by the sentry.

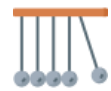
A Workgroup wishing to enter the confined space shall enter their names on the Confined Space Entry Log Sheet. They shall sign on the log sheet on entry and sign off on exit. This log sheet shall be controlled by the Confined Space Controller.

Reactivation of any Safe Work Permit associated with a Confined space entry clearance shall be preceded by the retesting of the atmospheric conditions in the vessel prior to re-entry by work group.

3.5.3. Responsibilities of a person issuing and authorizing a Confined Space Entry Clearance

A person issuing and authorizing a Confined Apace Entry Clearance shall:

- Be a Permit Issuer.
- Ensure all keys to lock-boxes and other locking devices are inside the Confined Space Entry Permit Lock-Box.
- Affix a keyed alike Isolation lock and blue isolation tag to the Confined Space Entry Permit Lock-Box.
- Clearly identify to the Work Group Supervisor the confined space to be worked in, the work to be performed and the safety instructions relevant to that work.
- Ensure a Confined space Controller is present who has completed the confined space controllers training module.



- Ensure the Confined Space Controller performs and records atmospheric monitoring on the confined space.
- Ensure the Confined Space Controller records personnel entering and exiting the confined space.
- Ensure that an Emergency Rescue Plan for the Confined Space has been completed

3.6. Excavation and Ground / Penetration Clearance.

3.6.1. Purpose

The purpose of the Excavation / Penetration Clearance is to protect a Work Group inserting a peg or picket into the ground, digging by hand, or excavating using machines from hazards of electrocution, fire, explosion or other hazards caused by damage to buried electrical lines or service pipelines such as gas, fuel and water.

It is also to prevent environmental damage, damage to buried services and ensures that the Survey Department is informed of any changes and that drawings are updated to reflect the changes.

3.6.2. Application and Requirements

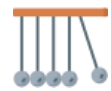
An Excavation and Ground Penetration Clearance shall be obtained for all ground disturbances, except those within the mine workings and those areas within the mine perimeter identified by the Survey Department as positively containing no buried services before commencement of ground disturbance.

UXO clearance is required for any land disturbance; there is no minimum depth such as 150mm.

Full details of the proposed ground disturbance, including the location, extent, depth, reason for the ground disturbance and a sketch if possible, shall be submitted to and approved by the General Manager or designate.

All of the sections of the clearance shall be completed by the relevant Responsible Persons before the certificate becomes valid and issued with a Safe Work Permit.

If the clearance is required for the specific purpose of installing additional services, these services shall not be covered until they are surveyed and an entry detailing the installation is made and signed on the clearance.



3.6.3. Responsibilities of the Work Group Member requesting the Clearance

The Work Group member requesting the clearance shall supply the Scope of Work information necessary to enable the Responsible Persons to properly evaluate the conditions of the work area.

The Work Group member, on receipt of a fully authorised permit, in conjunction with a certificate shall become the Permit Holder.

3.6.4. Responsibilities of the Permit Holder

The Permit Holder shall strictly follow the conditions of the clearance during the course of the work and ensure that any persons working under their direction are aware of and adhere to the conditions of the clearance.

If the permit is for the purpose of installing additional services, the Permit Holder shall ensure that such services are properly surveyed before the services are covered.

The Permit Holder, on completion of the work, shall return the Clearance to the permit issuer, together with a report of any services installed, modified or found in the excavated area, but not previously marked on the relevant drawing.

3.6.5. Responsibilities of the Permit Issuer and permit Holder

Those persons responsible for authorisation of the clearance shall duly examine the Scope of Work and the attached drawings and, if necessary, visit the site before entering any conditions or special precautions and signing the permit to authorise the excavation/ penetration work.

3.7. High Voltage Access / Vicinity Permit

3.7.1. Purpose

To ensure the safety of all personnel operating or working on or in the vicinity of High Voltage equipment.

To regulate work on High Voltage distribution system.

To ensure the security of electricity supply.

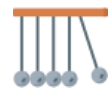
To protect equipment

3.7.2. Application and Requirements

See section 10.

3.8. Isolation Registration Sheet

3.8.1. Purpose



To provide a system of safe controlled access to equipment for maintenance or other work where multiple isolations are required or where multiple tasks are to be performed under the same isolations.

3.8.2. Application and Requirements

An Isolation Registration Sheet clearly identify all isolations and hazard control measures required to ensure that the equipment is safe to be worked on.

All Isolation identified on an isolation registration sheet shall comply with the isolation standard 4.4.

All Block valves shall utilize Isolation methods that provide a physical or mechanical barrier (Closed Locked-Lanyard, Air Disconnect, Disconnected and Tagged).

An IRS does not authorise work to be carried out. Separate Safe Work Permits for all work to be completed shall be issued, referring to the relevant IRS number.

An Isolation Registration Sheet can be endorsed for the following:

5-Point Isolation Registration Sheets shall be used when any of the following apply:

5 or less Isolations are involved

A maximum of 2 separate Safe Work Permits are required under the same set of isolations.

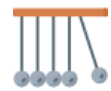
5 or less personnel are required to lock out on the same set of isolations.

A confined space entry is not required.

3.8.3. Responsibilities of a person issuing a 5-point Isolation Registration Sheet.

A person issuing a 5- point IRS shall:

- As a minimum be an Authorised Level 1 Isolator under supervision. As outlined in the Isolator Training Procedure
- Ensure all valves utilise Isolation devices that provide a physical or mechanical barrier on the IRS. (Closed Locked-lanyard, Air Disconnect, Disconnected and Tagged).
- Ensure Isolation Locks and Isolation Tags are affixed to all isolation points as listed on the Isolation Registration Sheet and on the Lock-Box.
- Ensure the Isolation Registration Sheet is signed by the Authorised Isolator and the



- Isolation Verifier for each isolation point and the hazard control measures.
- Ensure the isolations listed on Isolation Registration Sheet have been proven and signed as such.
- Ensure all keys to locking devices as stipulated in the Isolation Registration Sheet are inside the 5-point IRS Lock-Box.
- Affix an Isolators lock and a blue isolation tag to the 5-point IRS Lock-Box.
- Attach the Isolation Registration Sheet to the Lock-Box in a position so that all personnel placing tags can view the document.

A person issuing a 5-point IRS shall not:

- Issue a 5-point IRS until all isolations have been completed and hazard control measures have been implemented.
- Cancel the 5-point IRS until all associated Safe Work Permits and clearances have been returned and cancelled

Master Isolations Registration Sheet (IRS) shall be used when any of the following apply:

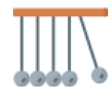
- 6 or more Isolations are involved
- 3 or more separate Safe Work Permits are required under the same set of isolations.
- 6 or more personnel are required to lock out on the same set of isolations.
- A confined space entry is required.

A Master IRS is also required when a review of the work by the Permit Issuer and or Work Group Supervisor agree that it is necessary.

A Master IRS shall be reviewed by competent persons approved by the Operations Manager or designate and the Maintenance Manager or designate to ensure compliance with isolation standard 4.4 prior to validation. Once the Master IRS is validated, operations personnel shall be responsible for performing the isolations and implementing the hazard control measures as per the IRS.

The Work Group Supervisor or any member of the Work Group shall at all times reserve the right to verify that the isolations and hazard controls are consistent with the IRS.

3.8.4. Responsibilities of a person issuing a Master Isolation Registration Sheet



A person issuing a Master IRS shall:

- Ensure all valves utilise Isolation devices that provide a physical or mechanical barrier on the IRS. (Closed Locked-lanyard, Air Disconnect, Disconnected and Tagged).
- Ensure a current, approved version of the Master IRS is available for the required isolation.
- Ensure Blue Isolation Tags and Isolation locks are affixed to all isolation points as listed on the Isolation Registration Sheet and on the Lock-Box.
- Ensure the Isolation registration Sheet is signed by the Authorised Permit Issuer and the Isolation Verifier for each isolation point and the hazard control measures.
- Ensure the isolations listed on Isolation registration Sheet have been proven and signed as such.
- Ensure all keys to locking devices as stipulated in the Isolation Registration Sheet are inside the Master IRS Lock-Box.
- Affix an Isolators lock and a blue isolation tag to the Master IRS Lock-Box.
- Attach the Isolation Registration Sheet to the Lock-Box in a position so that all personnel placing tags can view the document.

A person issuing a Master IRS shall not:

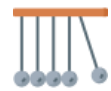
- Issue a Master IRS until all isolations have been completed, verified and hazard control measures have been implemented.
- Cancel the Master IRS until all associated Permits and clearances have been returned and cancelled.

3.8.5. Responsibilities of the Work Group working under the control of Safe Work Permit issued under the control of an Isolation Registration Sheet.

The Work Group working under the control of a safe work permit and IRS shall:

- Have satisfactorily completed the Introduction to Safe Work Permits Training Module.
- Affix a Personal Isolation lock and Danger Tag to the designated Lock-Box.
- Only perform the Scope of Work (SOW) for which a Safe Work Permit has been issued quoting the relevant IRS number.

A Work Group working under the control of a Safe Work Permit and IRS shall not:



- Start work until a Safe Work Permit has been issued quoting the relevant IRS number.
- Start work until all Isolations listed on the IRS have been completed and hazard control measures implemented.

3.8.6. **Responsibilities of the Permit Holder on receipt of a Safe Work Permit**

issued under the control of an Isolation Registration Sheet

Having satisfactorily completed the Introduction to SWIPS 1, 2 & 3, recipients of a Safe Work Permit issued under the control of an Isolation Registration Sheet shall be familiar with its conditions and requirements.

- Permit Holders on receipt of a Safe Work Permit issued under the control of an Isolation Registration Sheet shall be satisfied that the isolations have been completed and hazard control measures have been implemented in accordance with its requirements.
- Ensure all members of the work group have affixed a lock and Personal Danger Tag to the designated Lock-Box.
- Only perform the Scope of Work (SOW) for which a Safe Work Permit has been issued quoting the relevant IRS number.
- On completion of the work, or expiration of the Safe Work Permit, the Permit Holder shall report the status of equipment or work done to the Authorised Isolator.
- It is the responsibility of the Work Group to ensure that the work area is left in a safe and tidy condition upon completion of work.
- It is the responsibility of the Permit Holder to ensure all Personal Locks and Danger Tags that are placed on the IRS lock box are removed prior to cancellation of the permit.

4. Isolations

4.1. Purpose

To protect a Work Group from risk by making equipment safe to work on.

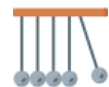
To prevent damage to equipment.

To prevent loss of production or equipment danger through adverse conditions or abnormal operation.

4.2. Isolation Requirements

Isolations are required for all equipment that:

- Has a hazardous substance with the potential to cause personal injury.
- Has a hazardous energy source with the potential to cause personal injury.
- If left in an operational mode may cause equipment damage or loss.



Isolations shall provide the means to protect a Work Group against hazards and disable all potential risks by the use of approved isolation methods.

4.3. Methods of Isolation

Isolation devices shall provide a physical or mechanical barrier to contain or remove the energy source. Devices that can form a part of, or complete an Isolation, include but are not limited to pipe spool removal, spades, blanks, double block and bleeds, electrical circuit breakers, padlocks and Multiple Locking Devices (MLD).

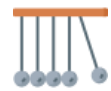
The following list of abbreviations shall be used when completing an Isolation Registration Sheet to indicate the type of isolation required.

Code	Description
CL	Closed, Locked and Tagged - Where a padlock, MLD or other locking device is used to prevent a valve from opening.
OL	Open, Locked and Tagged - Where a padlock, MLD or other locking device is placed to prevent a valve from closing.
DT	Disconnected and Tagged - Where an electrical plug is removed for the purpose of isolation. Plugs shall be affixed to the isolated equipment by means of a suitable cable tie or similar method.
AD	Air Disconnected and Tagged - Where the air supply to an actuator is mechanically removed.
SR	Spool Removed - Where a section of pipe or line is disconnected, removed and tagged.
SB	Spaded/Blanked and Tagged - Where a spade is inserted into a pipe or a blank is installed to form a barrier.
LO	Locked out at MCC and Tagged Where the Main Circuit Breaker is Open, Locked and tagged.

4.4. Isolation Standard

All valves shall utilize Isolation methods that provide a physical or mechanical barrier (Closed Locked-lanyard, Air Disconnect, Disconnected and Tagged).

- A Confined Space Entry Clearance is required (AS 2865)
- Steam, Nitrogen and Oxygen Gas
- Acid concentration above 35g/l; which would consist of the following streams: Sulphuric Acid, any Electrolyte, Autoclave residue and flash vessel discharge. Concentrations can be determined from site assays.
- pH above 11
- Cyanide
- Pressure above 1000 kPa
- Temperature above 80 C
- Cryogenic liquid and gases



.....
All isolations involving a valve(s) shall have the block(s) and bleed proven and verified as such.

If a positive isolation cannot be obtained then alternative methods shall be considered by the Operations and Maintenance Managers or designates by conducting a JSEA/Risk assessment. The outcome of the Risk Assessment shall determine further action. In all cases safety will prevail.

4.5. High Voltage Isolation

All high voltage isolations shall be performed by an authorized HV Isolator. See appendix 10.0 “High Voltage Access Procedures” for more information

4.6. Isolation of a Radiation Source

Where isolation of a nuclear source is required to ensure safe working conditions, the isolation shall be performed by a Radiation Safety Officer.

4.7. Isolation of Mobile equipment

All Mobile Equipment shall be Electrically Isolated before maintenance or repairs take place.

4.8. De-isolation

De-isolation of equipment shall not be performed unless all Safe Work Permits to which the isolation is relevant have been returned and cancelled. Upon Desolation the relevant IRS should be signed off at each point.

Only Isolators authorized to isolate that equipment may restore isolated equipment to operational service.

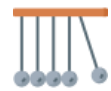
Only authorized HV Isolators may restore isolated high voltage equipment to operational service.

4.9. Electrical In Cabinet Work and PM's.

Electrical personnel performing maintenance tasks, including PM's, which require access to MCC cabinets, can perform their own isolations only after receiving a Safe Work Permit.

4.10. Modifications to an existing isolation

Isolations may require modification if the work requirements change or a previously undetected hazard is identified.



.....
In such an instance the Permit Issuer and the Work Group Supervisor shall: In the case of a Safe Work Permit:

- Stop Work.
- Ensure that Personal Locks and Danger Tags are removed from the IRS Lock box and the Work Group is clear of the area.
- Retrieve and cancel or suspend all Safe Work Permits/ clearances as per section 8.1.
- Review the concern regarding the isolation.
- Review the JSEA
- Agree on a method of rectification and have it authorized by the Shift Coordinator, Production Superintendent, Technical Superintendent or Manager.
- The Permit Issuer and verifier shall amend the Isolations identified as requiring modification, resign and re-authorize the IRS.
- Re-issue or reactivate Safe Work Permits/clearances as per section 8.1 when required.
- Ensure that Personal Locks and Danger Tags are placed on IRS Lock box and the Work Group is clear of the area.

In the case of a HV Access Permit:

- Stop work.
- Ensure that Personal Locks and Danger Tags are removed and the Work Group is clear of the area.
- Cancel all associated safe work permits
- Cancel HV Access Permit.
- Agree on a method of rectification and have it authorized by the, Senior Electrical supervisor, Electrical Superintendent, or Manager.
- The Authorized HV Isolator shall amend the Isolations identified as requiring modification, re-sign and re-authorize the switching program.
- Re-issue HV Access Permit.
- Update the relevant JSEA/SOP.

5. Authorized Isolators

5.1. Levels of Authority

Refer to Isolator Training Procedure:

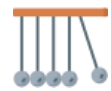
Isolation Verifier

Level 1 Isolator

Level 2 Isolator

Level 3 Isolator

Permit Issuer



Authority levels control the complexity and type of isolation procedure that may be performed and the issuing of Safe Work Permits.

This section details the necessary competencies that Isolators require before they are able to isolate at the three authority levels.

The authorization document issued by the General Manager or designate shall detail the extent of the authority given.

5.1.1. Level of Isolation

Isolation Verifier– A person who is present when an isolation is being performed and is authorized to confirm that the piece of equipment being isolated matches the corresponding Isolation Registration Sheet. The qualifications are a basic competency in the relevant process area, and completion of the 5- point Isolator training module. Written approval from the General Manager or designate, following practical 5-point isolation training in the field is required.

Level 1 Isolator – A person who is authorized to perform known isolations under the direct supervision of an Authorized Isolator. A level 1 Isolator can perform the duties of a Verifier.

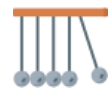
Level 2 Isolator - A person who is authorized to design and perform NEW 5 point isolations. A level 2 isolator cannot design and perform new Master Isolations but can still perform Authorized Master Isolations under supervision. A level 2 isolator can perform the duties of a Verifier.

Level 3 Isolator - A person who is authorized to design and perform all new isolations and act as an Isolation Verifier but cannot issue Permits

5.1.2. Permit Issuer

In addition to the responsibilities of a 5-point Isolator, a Permit Issuer is to issue and authorize Isolation Registration Sheets issued as Master Isolations and Confined Space Entry Clearances. Restrictions shall be placed as to which process areas a Permit Issuer may operate within.

A Permit Issuer shall only issue and authorize Safe Work Permits in plant areas they are authorized to do so.



The qualifications are an advanced understanding in the relevant process area and completion of the Permit Issuer training module. Written approval from the General Manager or designate, following practical master isolation training in the field is required.

5.2. Responsibilities of Authorized Isolators

Isolations performing isolations shall assess all risks as identified in a JSEA or contained in SOP when determining the extent of the isolation required. Only authorized Isolators as outline shall perform isolations, and only within their level of authorization.

Isolations shall:

- Perform the isolations as listed on the relevant authorized IRS
- Isolators shall place a locking mechanism complete with a blue isolation tag as stipulated on relevant IRS to ensure the integrity of isolations.
- Prove the isolations listed on the relevant IRS
- Prove the equipment is electrically isolated by a start test using the local stop/start station in the field
- Sign the IRS for each isolation
- Ensure any hazard control measures are carried out as per the IRS
- Authorize the IRS prior to issuing Safe Work Permits

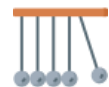
5.3. Responsibilities of Isolation Verifiers

Isolation Verifiers shall verify that all isolations and hazard control measures are performed as per the IRS.

The Isolation Verifier shall:

- Witness the isolation being performed by the Isolator
- Verify that an Isolation tag is placed on each isolation point by the Isolator as per the IRS
- Verify that the isolation type is consistent with the IRS
- Verify that isolations are proven
- Sign the IRS for each isolation
- Verify that any hazard control measures are carried out by the Isolator as per the IRS
- Countersign the IRS prior to the Safe Work Permit being issued.

Isolation Verifier shall be at least an Authorized Verifier and may not be authorized to perform isolation in the area.



The isolation Verifier may be member of a Work Group who is an Authorized Verifier.

6. Training, Testing and Authorization.

6.1. Purpose

To provide a system for the training, testing and authorization of Isolators to comply with the LXML Sepon Safe Work, Isolations and Permitting System. To set a standard for each level of Isolators.

To identify and record areas where Isolators are authorized to perform isolations, issue and authorize permits.

To provide a system where training, testing and authorization of Isolators is recorded and competency details are readily available.

As per the Isolator Training Procedure

6.1.1. Basic Training

All employees and contractors, who are required to install, operate or maintain equipment, sign on a permit or place a danger tag, shall receive basic training concerning the LXML Safe Work, Isolations and Permitting System.

This shall take place before commencement of duties and shall occur as part of the induction process.

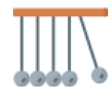
6.1.2. Training of Authorized Isolators.

Training for isolator is progressive from initial site induction through each of the levels of authorization, each level of which is achieved through competency in each of the specific training modules.

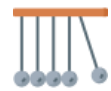
Authorization shall be in writing by the Manager or designate.

6.1.3. Training Levels

Level	Tags/Permits Used	Module/ Experience	Authorization
General Tagging	Personal Danger Tag Out Service Tag Safe Work Permit recipient	Site induction for new employees Introduction to Safe Work Permits.	Site induction acceptance from Supervisor
Confined Space Controller.	Confined Space Entry Certificate Entry Log Confined Space	Confined Space Controller Module SWIPS4.	Competency in the relevant training module Authorized by the



	Clearance Rescue Plan Atmospheric Monitoring Log.		General Manager and Designate.
Isolator Levels – As Per Isolator procedure	Personal Lock and Danger Tag Out of Service Tag Isolation Tag Issue and authorize An Isolation Registration Sheet endorsed as a Level 1 Isolator. Verify Isolations on an isolation registration sheet endorsed as a Master Isolation.	Basic intermediate and advanced operational experience in the relevant area Isolation methods Low voltage electrical isolation.	Competency in each of the training modules. Authorized by the Manager or Designate.
Permit Issuer	Personal danger Tag Out of Service Tag Isolation Tag Issue and Authorize Safe Work Permits and Confined Space Entry Permits Issue and Authorize isolation registration sheets endorsed as a Master Isolation.	Competency in all of the Level Isolator training modules Advanced operational experience in the relevant process Area Issuing and authorizing of Isolation Registration Sheets and Confined Space Entry Permits.	Competency in each of the training modules. Authorized by the General Manger or designate.
High Voltage	Personal Danger Tag Out of Service Tag Isolation Tag	High Voltage isolation training First Aid training which includes EAR and CPR.	Competency in each of the training modules Authorized by the General Manager or designate.



	Issue and authorize HV Access Permit		
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6.2. Retraining Intervals

Refresher training shall be completed by the Permit Issuers every 2 years for all modules associated with these procedures. Alternatively, if these procedures undergo a substantial review or an audit or investigation reveals deficiencies, the retraining may be brought forward at the discretion of the Department Manager or designate.

6.3. Area Specific Training.

The LXML Sepon site has been separated into specific areas for the purpose of identifying Isolators for each process area. This information will be recorded in the Currently Authorized Isolators register.

7. Tags and Purpose

7.1. Personal Isolation Lock and Danger Tag

The Personal Isolation Lock and Danger Tag is red on the top third and white on the bottom 2 thirds, it is marked DANGER.

The purpose of the Personal Isolation lock and Danger Tag is to protect individuals from injury or fatality.

It shall be used by a person to indicate his/her presence when working on or inside a piece of equipment.

No work shall be performed without Personal isolation Lock and Danger Tag/s being placed on the required Isolation Points or Lock Box.

Tags shall only be placed and removed by the person whose name appears on the Tag, or by following the Absent Person’s Personal Isolation Lock and Danger Tag Removal Procedure.

This can only be placed after the placement of an Isolation Tag. This shall not be used as an Isolation Tag, an Out of Service Tag or an Information Tag. This Personal Isolation Lock and Danger Tag shall be removed when leaving the job site.



7.2. Out of Service Tag

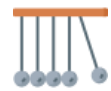
The Out of Service Tag has a yellow background with black writing and has a black band two thirds of the way up from the bottom with yellow writing. It incorporates the words CAUTION and OUT OF SERVICE.

The purpose of the Out of Service Tag is to protect equipment from further damage and to indicate that the equipment is out of service, shall not function, is faulty, is damaged or work on the equipment is incomplete.

Any employee can place this Tag. All requested information shall be written on the Tag. The person placing the Tag shall immediately notify the Supervisor in charge of the equipment.

This Tag shall only be removed by the person placing it, or Operations Supervisor or Designate or the Work Group Supervisor or designate responsible for the repairs.

This Tag shall not be used as a Personal Danger Tag an Isolation Tag or an Information Tag.



LXML
ລ້ານຊ້າງ ມິເນໂຣນສ໌ ຈຳກັດ
LANE XANG MINERALS LIMITED

**OUT OF SERVICE
CAUTION**

DO NOT USE OR OPERATE
PLACED BY:

NAME :

I.D. No.:

DATE :

Dept :

EQUIPMENT No.:

REASON:

SEE OTHER SIDE → → →

LXML
ລ້ານຊ້າງ ມິເນໂຣນສ໌ ຈຳກັດ
LANE XANG MINERALS LIMITED

**ເຄື່ອງໃຊ້ການບໍ່ໄດ້
ລະວັງ**

ຫ້າມເປີດເຄື່ອງ
ຕິດປ້າຍໂດຍ:

ຊື່ :

ບັດນຳ້ເບີ :

ວັນທີ :

ພະແນກ :

ນຳ້ເບີເຄື່ອງຈັກ :

ເຫດຜົນ :

ເບິ່ງດ້ານຫຼັງຕື່ມ → → →

7.3. Isolation

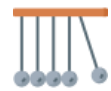
The Isolation Tag is blue with a white band on the top third with white inserts for details, it is marked DANGER ISOLATION TAG.

The purpose of the Isolation Tag is to identify equipment that has been Isolated for reasons stated on the IRS and or Safe Work Permit.

This Tag shall only be placed or removed, by a person who is an Authorized Isolator

An Isolation Tag shall be in place on any equipment to which it is intended to be under the control of an IRS

This Tag shall not be used as a Personal Danger Tag, an Out of Service Tag, or an Information Tag.



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ລ້ານຂ້າງ ມິເນໂຣນສ໌ ຈຳກັດ
LANE XANG MINERALS LIMITED

DANGER
ISOLATION TAG

DO NOT OPERATE

MASTER / CSEP No.:

PLACED BY:

NAME :

I.D. No.:

DATE :

Dept :

EQUIPMENT No.:

REASON:

SEE OTHER SIDE → → →

LXML
ລ້ານຂ້າງ ມິເນໂຣນສ໌ ຈຳກັດ
LANE XANG MINERALS LIMITED

ອັນຕະລາຍ
ປ້າຍຕັດໄຟ

ຫ້າມເປີດເຄື່ອງ

ໃບອະນຸຍາດເຮັດວຽກ ນຳເບີ:

ຕິດປ້າຍໂດຍ:

ຊື່ :

ບັດນຳເບີ :

ວັນທີ :

ພະແນກ :

ນຳເບີເຄື່ອງຈັກ :

ເຫດຜົນ :

ເບິ່ງດ້ານຫຼັງຕື່ມ → → →

7.4. Information Tag

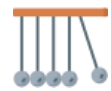
The Information Tag is green in color with white inserts to write the details, it is marked INFORMATION TAG.

The purpose of the Information Tag is to pass on any relevant Information concerning the equipment it is attached to.

Any person can place this Tag. Any person can remove this Tag provided the reason for its attachment is no longer valid.

This Tag shall be removed when no longer required.

This Tag shall not be used as a Personal Danger Tag, an Out of Service Tag or an Isolation Tag.



LXML
ລ້ານຊ້າງ ມິເນໂຣນສ໌ ຈຳກັດ
LANE XANG MINERALS LIMITED

INFORMATION TAG

PLACED BY:

NAME :

I.D. No.:

DATE :

Dept :

EQUIPMENT No.:

REASON:

SEE OTHER SIDE →→→

LXML
ລ້ານຊ້າງ ມິເນໂຣນສ໌ ຈຳກັດ
LANE XANG MINERALS LIMITED

ປ້າຍແນະນຳ

ຕິດປ້າຍໂດຍ:

ຊື່ :

ບັດນຳເບີ :

ວັນທີ :

ພະແນກ :

ນຳເບີເຄື່ອງຈັກ :

ເຫດຜົນ :

ເບິ່ງດ້ານຫຼັງຕື່ມ →→→

7.5. Commissioning Tag

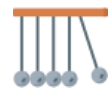
The Commissioning Tag is dark green in color with white inserts to write the details, it is marked Commissioning Tag

The purpose of the Commissioning Tag is to pass on any relevant Information concerning the commissioning of that piece of equipment it is attached to.

Only the person/s that are commissioning a piece of equipment can place this Tag. Only commissioning person/s can remove this Tag provided the reason for its attachment is no longer valid.

This Tag shall be removed when no longer required.

This Tag shall not be used as a Personal Danger Tag, an Out of Service Tag, an Information Tag or an Isolation Tag.



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LANE XANG MINERALS LIMITED

COMMISSIONING TAG

PLACED BY:

NAME :

I.D. No.:

DATE :

Dept :

EQUIPMENT No.:

REASON:

SEE OTHER SIDE → → → →

LXML
ລ້ານຊ້າງ ມິເນໂຣນສ໌ ຈຳກັດ
LANE XANG MINERALS LIMITED

ປ້າຍທົດລອງ

ຕິດປ້າຍໂດຍ:

ຊື່ :

ບັດນຳເບີ :

ວັນທີ :

ພະແນກ :

ນຳເບີເຄື່ອງຈັກ :

ເຫດຜົນ :

ເບິ່ງດ້ານຫຼັງຕື່ມ → → → →

7.6. Scaffold Tag

During Construction of Scaffold Structures:

Scaffold tag holders shall be attached to all authorized/approved access points to the scaffold.

Only the Scaffold tag holder showing the prohibition or danger symbol and the words “DO NOT USE SCAFFOLD” shall be showing.

This information shall apply to all persons not involved in the scaffold construction.

When construction is complete the scaffold shall be inspected by an advanced level scaffold to ensure compliance with standards and codes of practice.

When satisfied the Inspector shall complete the green faced Scaffold tag insert (part number STSI) with its unique identification number, loading, usage, date and his / her signature.

The Inspector shall then place the insert STSI into the Scaffold tag holder, indicating that the scaffold is SAFE FOR USE. A duplicate insert shall be held in the rigging supervisor’s office in the Scaffold Record System.

Only the Scaffold tag holder showing the prohibition or danger symbol and the words “DO NOT USE SCAFFOLD” shall be showing during the dismantling of the scaffold.

This information shall apply to all persons not involved in the dismantling of the scaffold.

SCAFFTAG®

SCAFFOLD

ERECTION & INSPECTION RECORD

LOCATION:
REF. No.

DATE ERECTED:
.....

REQUESTED BY:
.....

BUILT BY:
.....

NAME OF COMPETENT PERSON
.....

SIGNATURE
.....

SCAFFOLD TO BE USED FOR

Light Duty 225 kg	<input type="checkbox"/>
Medium Duty 450 kg	<input type="checkbox"/>
Heavy Duty 675 kg	<input type="checkbox"/>

THE ABOVE WEIGHTS ARE FOR ANY ONE WORKING PLATFORM BAY AND INCLUDES MEN AND MATERIALS

UNLAWFUL REMOVAL OR INTERFERENCE
WITH THIS SIGN COULD MAKE
YOU LIABLE TO PROSECUTION

INSPECTION FREQUENCY BY COMPETENT PERSON		
DATE	TIME	SIGNED

COMMENTS:

LADDER No. OF RUNGS

No. OF STANDARDS

No. OF LIFTS

M² BOARDING

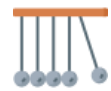
STRUCTURE DECOMMISSIONED
DATE

REF. No. STSI © 1996
HARTAC 08 9328 7414

7.7. Construction Tag

The KDG Construction Pre-Commissioning & Testing Tag is red in color with white inserts to write the details.

The purpose of the KDG Construction Pre-Commissioning & Testing Tag is to pass on any relevant Information concerning the Construction, Pre-Commissioning and testing phase of that piece of equipment it is attached to.



Only Construction and Pre-Commissioning personnel who are Pre-Commissioning or testing a piece of equipment can place this Tag. Only Construction and Pre-Commissioning personnel can remove this Tag provided the reason for its attachment is no longer valid.

This Tag shall be removed when it is no longer required.

This Tag shall not be used as a Personal Danger Tag, an Out of Service Tag, an Information Tag, an Isolation Tag or a LXML Commissioning Tag.



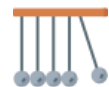
8. Rule and Variations

8.1. Permit Transfer – New Holder and Isolator

Whenever a permit holder is to leave site (e.g. shift end) or is taken away to other duties which prevent them from being available to fulfill their responsibilities with regard to the execution of the controlled task, the Safe Work Permit shall be transferred to a new permit holder.

The following shall be considered during transfer:

- A briefing shall be held between the current permit holder and the Permit Issuer to discuss the status of the task and the required hazard controls.
- The current Permit holder should sign the PERMIT SUSPEND section on the safe work permit along with the Permit Issuer.



- The incoming Permit Holder shall review the JSEA and other SWIPS documentation with the Permit Issuer.
- The work group and permit holder shall review and sign the JSEA.
- Permit transfer shall be confirmed by the incoming permit holder completing the PERMIT REACTIVATE section of the Safe Work Permit and Permit Isolators signature.

When all spaces in sections PERMIT SUSPENDED/REACTIVATED of the Safe Work Permit are filled, extension sheet may be attached.

8.2. Permit Suspension.

A safe Work Permit may be suspended for a number of reasons, these may include:

- Temporary cessation of work while waiting for labor /materials /information etc. required to complete the next phase of work.
- Stop work overnight.
- In the event of a significant incident or the potential for a significant incident in the permit area, at the direction of the relevant shift supervisor or day management.

Except the event of a significant incident the permit holder is responsible for initiating permit suspension.

In order for a permit to be suspended the work site shall be:

- Left in a safe and tidy state,
- The SWIPS documents shall be returned to the permit office and
- The work group shall remove their Personal Lock and Danger Tag from the associated lock box.

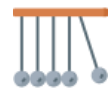
When requesting permit suspension the permit holder shall inform the permit issuer of:

- The state the equipment has been left in.
- Why the permit is to be suspended.
- How long the permit is expected to be suspended for

When the Permit Issuer is satisfied the work site has been left in a safe state the permit may be suspended. This shall involve inspection of the work site.

To suspend a permit the Permit Issuer and permit holder shall complete PERMIT SUSPEND section of the Safe Work Permit.

The Permit Issuer shall ensure all permit documentation is left with the lock box. The permit can be reactivated by:



- The Permit Holder shall review the JSEA and other SWIPS documentation with the Permit Issuer.
- If suspension has extended beyond 7 days the isolation points should be reconfirmed
- The work group and permit holder shall review and sign the JSEA.
- Workgroup placing their Personal Isolation Lock and Danger Tags on the lock box
- Reactivation shall be confirmed by the Permit Issuers and permit holder completing the PERMIT REACTIVATE section of the Safe Work Permit.

8.3. Permit Suspension in the Event of a Significant Incident

In the event of a significant incident or potential for a significant incident in an area the relevant shift supervisor (or Coordinator, or Superintendent) may call for the suspension of all permits in that area until the extent of the incident or potential incident and any flow on effects can be assessed and adequate controls put in place.

Where an area is evacuated for any reason, all active Safe Work Permits in that area shall be considered suspended. When the situation is deemed safe all work group members shall remove their personal locks from the effected lock boxes.

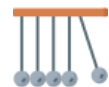
No Safe work Permits may be re-issued until all Personal Isolation Locks and Danger Tags are removed from the relevant lock box and permission to re-issue is obtained from the relevant area supervisor.

8.4. Removal of an Absent Person's lock and Personal Danger Tag

Attempt to find that person who has left the job and not removed their personal danger tag and lock.

Attempt to contact the person by all means possible. If person is able to be contacted and can return to the job. Instruct them to remove their tag and lock. Speak to them about the importance of removing their tag while away from the job for extended amounts of time:

- If the person is not able to be contacted or unable to return to site you will need to inform the authorized Permit Issuer. A absent person form will need to be filled out.
- With the permit holder you will both inspect the work area to see that the person is not present.



- Attempt to get a hold of the person eg by phone. If able to contact the person put in the details and proceed to step 6. If not able to contact and speak to the person directly then continue with step 4.
- Check the person's room to ensure they are not there. Check that their room key has been handed into office.
- Check the Flight / Vehicle manifests that they are marked off as being absent from site.
- Permit Issuer will inform the work group department manager about the issue.
- Attach tag and lock to the absent persons form and hand to person's Supervisor.
- Raise an event report in about the issue.
- In the case that the Permit Holder is not available the area Shift Supervisor will fill out the above.

Absent Person's Supervisor will:

- Receive the absent person form
- Sign and date to be placed on the absent person form.
- Check that an event form has been raised.
- Inform the person as soon as they arrive back on site that there tag and lock was removed while they were away.
- Take any disciplinary action required.

8.5. One person acting as Permit Issuer and Permit Holder

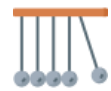
The Permit Issuer issuing the permit and the Permit Holder shall not be the same person.

8.6. Personal Lock and Danger Tag unavailable or scissor lock full

If a lock or Personal Lock and Danger Tag is unavailable to a Work Group then that Work Group shall not commence work.

If the scissor lock on a Lock Box has no available locking points then that Work Group shall not commence work.

8.7. General Manager's discretion



As identified by a JSEA, where there is an alternative, logical and efficient method to safely carry out work, variations may be made to this policy and procedures.

The General Manager or designate shall approve the variations in writing.

8.8. Construction

In the case of Construction activities, in all instances within this document the words “General Manager or designate” shall be replaced by the words “Construction Manager or designate” and the words “Operations Supervisor or designate” shall be replaced with “Construction Supervisor or designate”

8.9. Commissioning of new equipment

New equipment shall be commissioned according to the specific procedures that have been identified and approved by the Construction Manager in a JSEA.

After the equipment is energized and signed over to the production department, this policy and procedures shall be enforced.

8.10. SWIPS Non- Compliance

All breaches of this policy and procedures shall be recorded and investigated in an Event

Notification Form.

As a result of the investigation, any person who breaches or disregards this policy and procedures shall be subject to disciplinary action. This may include termination of employment.

Breaches shall be classified as by level with the following giving a guide to those levels:

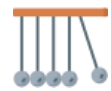
Level 1 Breach

Minor breaches of the system, where the breach does not directly affect the integrity of the permit to work system. Examples of a level 1 breach may include but are not limited to:

- Clerical errors of a nature not affecting the integrity of the permit or certificate e.g. incorrect date or time, ambiguous wording, untidy writing.
- Leaving a Personal Isolation Lock and Danger Tag on.
- Failure to accurately fill in a tag.

Level 2 Breach

Serious breaches where the breach may affect the integrity of the SWIPS system but the breach is not intentional or where the individual could not



.....
reasonably be expected to know they were in breach. Examples of a level 2 breach may include but are not limited to:

- Clerical errors of a nature that may affect the integrity of the permit or certificate e.g. incorrect job description, wrong number of locks used, failing to sign off a permit.
- Leaving site without signing off or handing over a permit. Innocent mistakes in isolation design.
- Use of the wrong isolation tag.
- Removing an out of service tag when not authorized to do so.

Level 3 Breach

Major breaches of the permit to work system are generally the result of negligence or willful disregard. Level 3 breaches are extremely serious and have the potential to cause personal injury or equipment damage. Examples of a level 3 breach include but are not limited to:

- Interference with another person's personal lock
- Completing task that requires a safe work permit without a Safe work permit. Negligent isolation design.
- Failure to identify required associated certificates. Subverting the SWIPS process to obtain a permit.
- Altering permit documentation when not authorized to do so. Failure to follow permit or certificate hazard control requirements. Interference with an equipment isolation lock when not authorized to do so. Gaining access to a locked Lockbox.

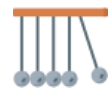
9. High Voltage Access Procedure

9.1. Purpose

The purpose of this procedure is to ensure that the risks of personal injury, production loss, and property damage are minimized when work is to be carried out on exposed parts of any high voltage equipment that is capable of being energized. High voltage equipment is any equipment or apparatus supplied with electricity with a potential of more than 1000 Volts.

No person shall commence work on any high voltage equipment without having first obtained written permission in the form of a duly authorized High Voltage Access Permit.

9.2. Scope



This procedure is applicable to all personnel, including contractors, working at the LXML Sepon Gold and Copper Project. As this procedure is standard across the site, Department Heads and Supervisors must ensure that all of their personnel who are to use these procedures possess the relevant competencies.

9.3. General Behavior

Every person shall observe the following precautions in the vicinity of high voltage equipment. These clauses apply whatever the apparent state of the equipment and even when the equipment is being worked on by other employees.

All high voltage equipment shall be regarded as 'live' unless covered by an Access Permit. No person shall work on such high voltage equipment unless they are signed onto a current Access Permit to do so.

- High Voltage safety locks are padlocks used by High Voltage Isolators, and are clearly identified as High Voltage safety locks. High Voltage safety locks shall be keyed alike (but differently keyed to any other padlock).
- High Voltage Safety locks shall only be applied, and removed by an HV Isolator as part of an Isolation Program.
- No person shall interfere in anyway whatsoever with HV Safety locks or any other safety devices provided on high voltage equipment.
- It is requirement to have a minimum of 2 persons when working on High Voltage equipment under an Access Permit.

9.4. Operation of a High Voltage System

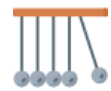
9.4.1. General

Switching and associated duties on high voltage equipment shall be performed only by authorized High Voltage Isolators whose competencies cover the particular area and equipment.

In an emergency involving safety of persons or plant, any employee may carry out switching operations when specifically instructed by a High Voltage Isolator. If this occurs an Incident Report should be completed.

9.4.2. Switching Programs

The High Voltage Isolator shall ensure that written instructions are prepared for all switching other than simple switching, particularly on planned work requiring extensive switching. The written instructions



prepared should be checked and agreed by at least one other High Voltage Isolator.

In an emergency, telephone or radio switching instructions may be given by a High Voltage Isolator and these instructions shall be documented on an Access Permit. The understanding of the instructions shall be verified by before attempting to execute each step.

9.4.3. Switching Procedures

Under no circumstances shall any appliance, rod or handle other than the appropriate one provided for the equipment, be used when operating switches and circuit breakers.

Before and after operating any switch or circuit breaker, the indicating device attached thereto or other positive physical indication shall be observed to confirm the status.

The operation of outdoor air-break switches or fuse switches shall be carried out by a High.

Voltage Isolator wearing certified insulating gloves, eye protection, safety hat and safety boots.

9.4.4. Reporting of defects

Any defect that has become apparent in any High Voltage electrical equipment shall be reported to the Electrical Supervisor immediately or, in his absence, to a High Voltage Isolator.

9.5. Making High Voltage Equipment Safe

9.5.1. General

Isolation and Earthling

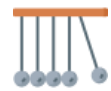
All points of possible supply shall be isolated (visible breaks where possible), operating handles and/or shutters locked and danger tags fitted.

Earths shall be applied wherever practicable between the point of access and all sources of supply. If earthing is impracticable the High Voltage Isolator shall arrange total physical isolation of the high voltage equipment and discharge the equipment.

The absence of earths shall be recorded on the Access Permit.

High Voltage Metal-Clad Switchgear

A circuit breaker or a voltage transformer may be regarded as 'dead' when it has been racked out and removed from the board.



For work on bus bar circuits, or where the physical separation of circuits within a chamber is not obvious, additional precautions shall be taken for the safety of the HV Work Group

High Voltage Rotating Machines

All work on high voltage rotating machines, such as motors or alternators, shall be performed under Access Permit/testing permit as for other H.V. equipment.

An Access Permit is not necessary for work on machinery driven by a High Voltage Motor or the rotor circuit of a Liquid Resistance Starter, normal SWIPS Procedures shall apply.

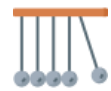
Declaring Equipment 'Dead'

Before declaring high voltage equipment 'dead', and applying earths, the High Voltage Isolator shall make the following observations and tests:

- Re-check the Switching Program and steps to ensure that all possible sources of supply have been Isolated, locks fitted and danger tags applied.
- Confirm the approved high voltage test equipment is certified and functioning as per the manufacturer's recommendations.
- Using the approved high voltage test equipment, prove by test that the terminals or spouts at which the earthing equipment is to be applied are 'dead'.
- Re-check the approved high voltage test equipment between each test as per (b).
- Approved earthing equipment may then be applied at the point which has just been declared 'dead'. An appropriate sign shall be placed at the isolation point(s) indicating work earth(s) are in place.
- At each and every point on the high voltage equipment at which earths are to be applied, the High Voltage Isolator shall use the high voltage test equipment to prove that the terminals are 'dead' before attempting to apply earths.

Earthing of High Voltage Equipment

Only approved earthing devices shall be used, and only High Voltage Isolators shall apply them after proving that the conductors are 'dead'. Each earthing device shall be connected to earth before it is applied to any



conductor, and shall be removed from the conductor(s) before it is disconnected from earth.

Whenever practicable, an earth shall be applied and removed remotely by an approved device. When hand application or removal is unavoidable another earth applied with an approved device shall be maintained in contact with each conductor in turn while the hand applied earth is being attached or removed.

Generally, one of the following systems of earthing is adopted on a particular plant where metal-clad switchgear and underground cables are installed:

- Earthing by means of an integral earth switch.
- Earthing by means of a three-phase set of portable earthing tackle
- Earthing by means of a circuit breaker.

All portable earthing tackle shall be thoroughly cleaned and inspected immediately prior to use and at the completion of the work.

9.6. Access Permit

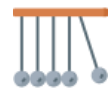
9.6.1. Procedure

A Job Safety Environment analysis is a pre-requisite for all high voltage work. The JSEA shall be carried out by the personnel involved with the high voltage work and shall identify the hazards associated with the task and provide suitable control measure to reduce these hazards to as low as reasonably practicable.

The JSEA shall address, but not be limited to, the following criteria:

- Checking of the Switching Program.
- Isolation requirements.
- Testing for “Dead”.
- Clearance from other high voltage areas.
- The installation of working earths for personnel protection.
- The location of working earths should be recorded on the Access Permit.
- Escape routes.
- Access to job area and aids required e.g. Elevated work platform.
- Other potential hazards.

The JSEA shall be attached to the Access Permit when it is issued by the High



Voltage Isolator and the serial number of the JSEA recorded on the Access Permit.

Each Access Permit shall be issued to a HV Permit Holder who shall ensure that all members of the HV Work Group place personal locks and tags and then sign onto the Access Permit.

Before signing the Access Permit, each HV Permit Worker shall satisfy themselves concerning the precautions taken, the location of the points of supply, and the proximity of any adjacent live equipment.

Any person involved in the issue or receipt of an Access Permit who is not satisfied with the conditions, may apply to have additional precautions taken, either before the Access Permit is issued or during the currency of the work.

A High Voltage Permit Holder shall remove any of the HV Permit Workers from an Access

Permit if they do not comply with the access Permit conditions. Such instances shall be reported to the responsible Electrical Supervisor and an Incident Report completed immediately.

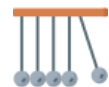
9.6.2. Issue of the Access Permit

Before issuing the Access Permit, the High Voltage Isolator shall point out and explain to the HV Permit Holder and the HV Work Group the equipment covered, the switching, isolations, earthing, locks and danger tags fitted, notices and barriers erected to ensure people may work on the equipment safely.

The HV Permit Holder shall be in agreement with the precautions taken. Both the High Voltage Isolator and the HV Permit Holder shall ensure that each member of any Work Group has a clear understanding of the precautions taken and of the any adjacent equipment that is still 'live'.

Subsequent to the issue of the Access Permit, additional HV Permit Workers may sign on the Access Permit after appropriate instruction by the HV Permit Holder. The High Voltage Isolator, as issuer of an Access Permit, shall not be the HV Permit Holder but may sign the Access Permit as a member of the HV Work Group.

An Access Permit can be issued only by a High Voltage Isolator, and the Access Permit shall be on view as close to the work site as practical.



9.6.3. Multiple HV Work Groups

When more than one Access Permit is issued on the same equipment or system, there must be complete co-ordination in planning and performing of the work to ensure that the actions of one HV Work Group shall not endanger the safety of the others. In these cases, the planned tasks shall be reviewed by the Electrical Superintendent or his designate.

9.6.4. Issue of Permit to Contractions

An Access Permit may be issued to a Contractor who has been authorized as a HV Permit Holder by the Responsible Electrical Supervisor to receive such Permits.

9.6.5. Leaving the Work Site

HV Permit Workers leaving the work site shall firstly remove any personal locks and tags as appropriate and then sign off the Access Permit.

9.6.6. Temporary Stop of Work or Absence of Members of the Work Group.

Following a stop of work or when members of the HV Work Group have been temporarily absent and signed off the Access Permit, each HV Permit Worker before approaching the high voltage equipment, shall again report to the HV Permit Holder and confirm the condition of the equipment under the Access Permit.

Before signing back on to the Access Permit each HV Permit Worker shall again satisfy themselves concerning the precautions taken, the location of the points of supply, and the proximity of any adjacent live equipment.

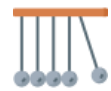
9.6.7. Transfer Of HV Permit Holder

If the HV Permit Holder is required to leave the site, a High Voltage Isolator may arrange the transfer of the Access Permit to another HV Permit Holder. All three people must agree on the safety measures taken, working procedures and the progress of the work.

The new HV Permit Holders name shall be entered on the Access Permit and the new person shall sign the appropriate section of the form. The previous HV Permit Holder shall immediately sign off the Access Permit.

9.6.8. Duration of Access Permits

Preferably, Access Permits should be cancelled within the working shift of the HV Work Group. An Access Permit extending beyond the working shift



of the HV Work Group requires all members of the HV Work Group to sign off the Access Permit before leaving the site.

A new HV Permit Holder can then be issued the Access Permit and members of any new HV Work Group shall then sign onto the Access Permit.

Additionally, each HV Permit Holder shall ensure that:

- Each HV Permit Worker signs on and checks the currency of the Access Permit at each change of shift.
- No work is performed on site during the absence of an HV Permit Holder.

9.6.9. Change of Access Permit Conditions.

The conditions specified and precautions listed on the Access Permit shall not be changed during its currency. Should the HV Permit Holder require changes, e.g. Earths moved for merger testing, they shall arrange for all members of the HV Work Group to sign off the Access Permit, and for the High Voltage Isolator to cancel it.

A new Access Permit shall be issued, and all members of the HV Work Group shall sign on again, before any work can proceed.

9.6.10. Cancellation of Access Permit

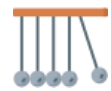
An Access Permit shall not be cancelled until all members of the HV Work Group, including the HV Permit Holder, have signed off. Only High Voltage Isolators shall cancel an Access Permit. No relaxation of Access Permit conditions shall take place until such Access Permits have been cancelled.

The HV Permit Holder shall discuss details of the work completed with the High Voltage Isolator, who in turn shall be satisfied that the equipment is safe and that the Access Permit is ready to be cancelled.

The HV Permit Holder shall then sign off the Access Permit and hand it over to the High Voltage Isolator who shall then cancel the Access Permit and, if appropriate, clear precautions taken prior to the issue of this permit. The Access Permit shall be returned to the Electrical Supervisor for filing.

9.6.11. Restoring High Voltage Equipment to service

The High Voltage Isolator shall advise any HV Work Group that may be working adjacent to particular high voltage equipment, that the equipment is intended to be placed in service.



The High Voltage Isolator shall examine the high voltage equipment and satisfy himself/herself that it is ready for service. Following these checks the High Voltage Isolator may proceed to clear any remaining precautions taken prior to the issue of the Access Permit (e.g. barriers etc.).

The High Voltage Isolator may then re-energize the particular High Voltage equipment and return it to service.

9.6.12. Work on Machinery Driven by High Voltage Motors.

A High Voltage Isolator shall perform simple motor isolations, required for non- electrical personal to work on machinery driven by High Voltage motors or devices.

9.6.13. Accountabilities

Senior Electrical Supervisor

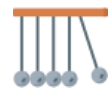
Prerequisite: The Senior Electrical Supervisor shall be deemed competent by successfully completing Authorized Isolator and appropriate SWIPS training. Bi- Annual training in CPR and EAR is also required.

The Electrical Supervisor will have the necessary practical and technical knowledge of and be responsible for the following:

- Ensure the scope of work is adequately detailed and the Permit is filled out clearly and correctly.
- Nominate the Authorized Isolator
- Nominate an Authorized Isolator to write the switching program
- Nominate an Authorized Isolator to check the switching program
- Review the switching program where necessary.
- Authorize the JSEA for each permit issued.
- Ensure that the work completed by the Permit Holder and Work Crew has been done safely and of the required standard.
- When working in the vicinity of, or within a power line corridor, ensure applicable Permits are issued.
- Any work carried out, in or in close proximity to a transformer compound; ensure suitable precautions are taken, in accordance with the High Voltage Work Procedures.

Authorized Isolator

Prerequisite: For High Voltage Access Permits the Authorized Isolator shall be deemed competent by having successfully completed high voltage



switching training and clearly demonstrated a thorough knowledge of the high voltage distribution system(s) for which they are authorized.

Bi-Annual training in CPR and EAR is also required.

The Authorized Isolator will also have completed the appropriate level of SWIPS and demonstrated competencies in the following as a minimum:

- Identification of isolation tags;
- Identification of isolation points;
- Understanding of isolation procedures;
- Correct use of isolation tags;
- Will be required to read single line schematics;
- Will understand and produce High Voltage Switching Programs.

Permit Holder

Prerequisite: The Permit Holder shall be deemed competent by successfully completing appropriate training and education relevant to the duties and tasks that they are required to perform.

The Permit Holder is deemed to be the job supervisor directly in charge of the task who will have practical and technical knowledge of and be responsible for the following:

- The scope of work.
- Explaining the relative job hazards to the work group
- Filling out relative work permits sections.
- Developing JSEAs with work group.
- Placing their own Personal Danger Tag and lock and ensuring their crew has placed theirs in compliance with SWIPS procedures.
- Ensuring work group complies with all permit conditions.

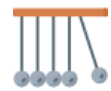
Permit Worker

Prerequisite: The Permit Worker shall be deemed competent by successfully completing appropriate training and education relevant to the duties and tasks that they are required to perform.

The Permit Worker shall be responsible for:

- Working under the conditions of the High Voltage Access Permit
- Being actively involved in the development of JSEAs and SOPs

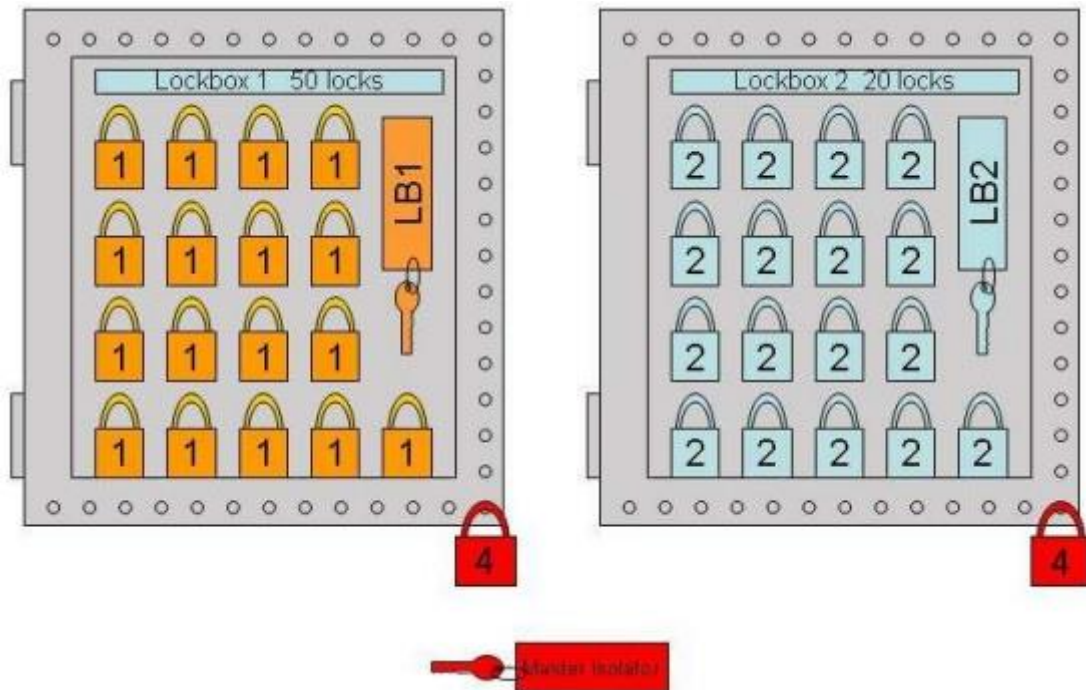
Contractors



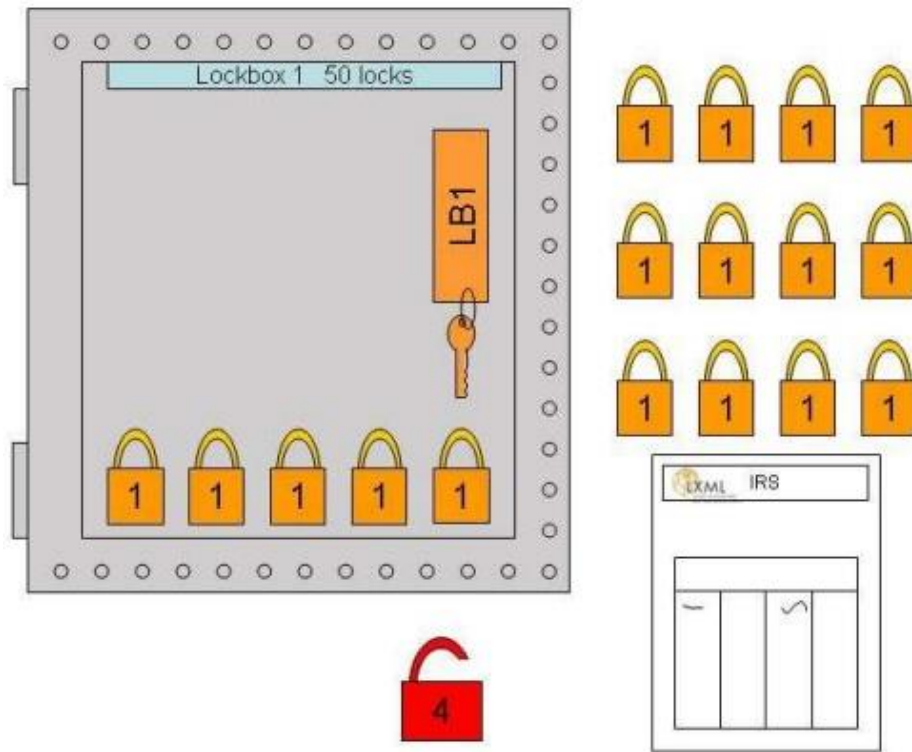
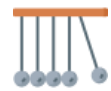
All contractors working on site shall be expected to work within this procedure.

10. Keyed alike lockout

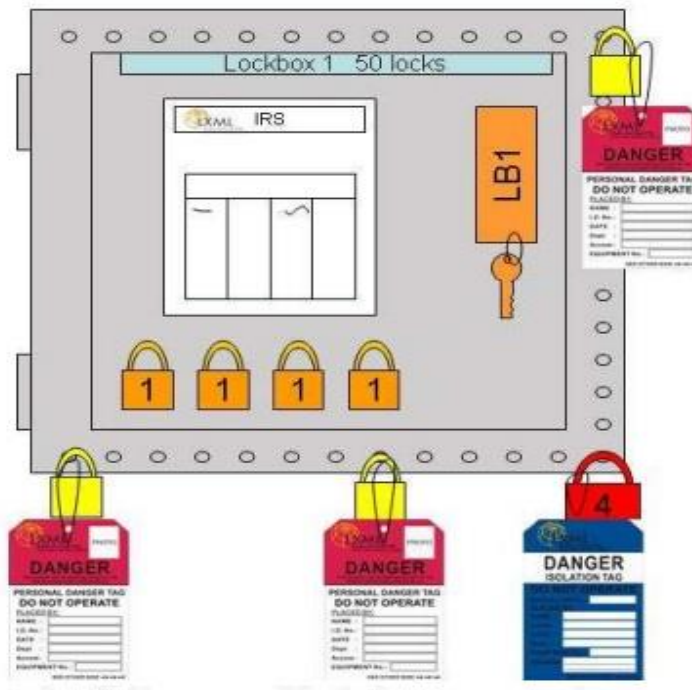
- Lock boxes need to be kept locked when not in use to prevent loss and theft of locks. The responsibility lies with the Master isolator to return all items to the lock box and secure it.
- Locks need to be stamped with a unique number and possibly color coded to areas.
- Records and spares need to be kept for each lock box set to replace any lost, Damaged or inoperable locks.
- Each lock box has a predetermined number of keyed alike locks and the corresponding key on a large tag. Each lockout box is sealed with the isolators lock (key Issued to competent authorized Isolator).
- Locks are stamped with Lock box number as is key tag
- No two lock boxes are keyed (eliminate de-Isolating wrong IRS)
- Isolations require large numbers can use content of multiple boxes, with corresponding tagged keys locked into box with IRS / Permit.

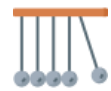


- Remove Isolators lock and open lock box
- Remove the required number of locks as Indicate on IRS
- Isolate required equipment as per authorized IRS

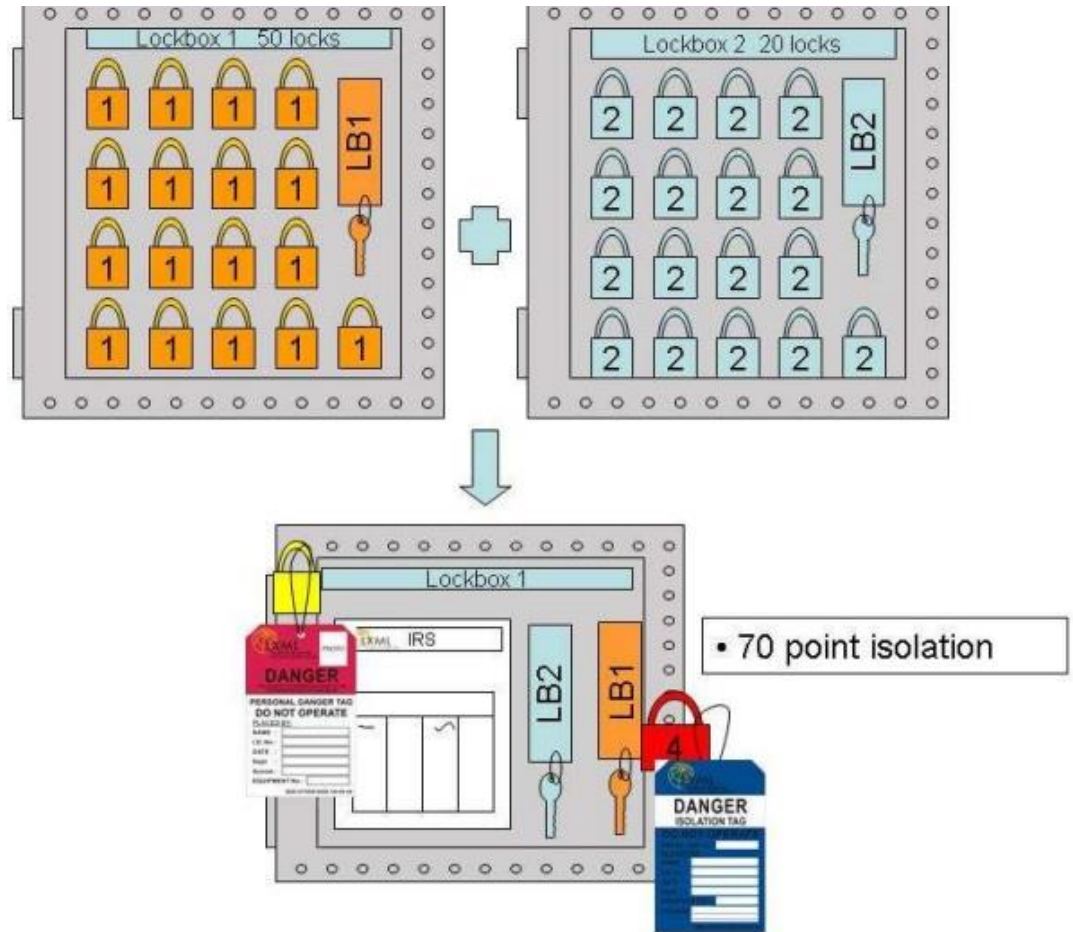


- Examine JSA for Work Order
- Issue work permit and associated permits as required
- Work group affix their personal locks and damage tags
- Place copy of SWP and IRS and JSA under lockbox

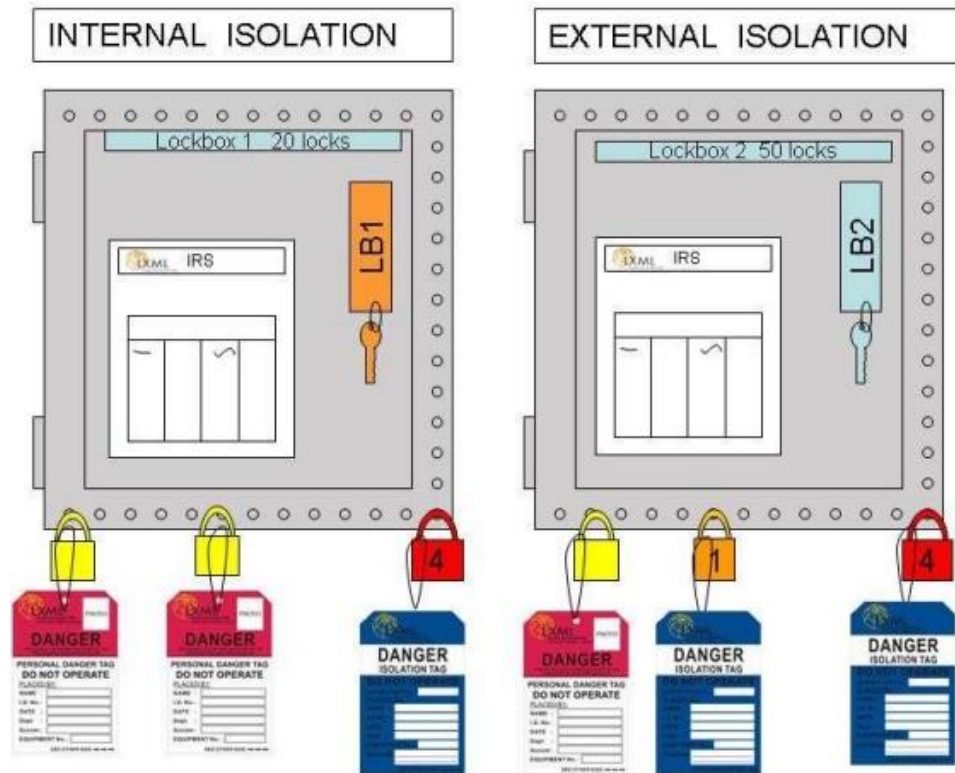
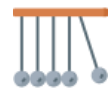




- For large Isolations multiple boxes can be used



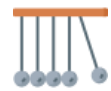
- Internal / External permits can be applied as below
- External is no sealed internal lock.



11. Conclusion.

- Safe work, Isolation and permitting system is part of the HSE and Operator's Management system.
- Safe Work, Isolation and Permitting system must be improved and personnel must be adequately trained.
- Safe Work, Isolation and Permitting is required Mechanical / Electrical Isolations should remain in force until work is completed.
- A mechanical isolation procedure is required for physical "Lock-Out" and "Tag-out" of isolation electric cabinets, boxes and Valves.
- Improve shift handover and control of suspended SWIPS.
- Physical locking of electric cabinet, boxes and valves will slow down work, and increased offshore operator headcount maybe required.
- All staff, Operators and Workers using the permits must completely understand the reasons for, and the requirements of the permit before work begins.
- A safe work permit is an effective tool to help identify and control hazards, prevent injuries, and avoid costly mistakes.

12. References



1. Bob Kennedy and Gavin Wright January 2011, LXML-SEP-HSS-006-SPR-001-Safe Work and Permitting.
2. SH013-General Safety, Revised May 2007- Preformatted May, 2020.
3. Roque Dcunna 20th February 2018 Permit to Work.