ISOLATION LOCKOUT AND TAGOUT				Document ID : SA-AMI-000-HDAI-710016	
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AMIRAL PROJECT

ISOLATION LOCKOUT AND TAGOUT

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1 PURPOSE

This procedure outlines the process whereby Contractor HYUNDAI Engineering & Construction Co., Ltd (HDEC) will provide uniform guidance and instruction on methods safely isolating sources of energy to enable safe construction, Commissioning and pre commissioning or repair activities. Energy sources include electrical, mechanical, hydraulic, pneumatic, chemical, and thermal – all of which can be hazardous to employees.

2 SCOPE

The scope of this document covers all activities related to isolation of energy sources carried out by Contractor or any other person on its behalf on the AMIRAL PKG-4 PROJECT

3 RESPONSIBILITIES & AUTHORITIES

3.1. Project Manager (PM)

· The Project Manager has overall responsibility to ensure all necessary arrangements are made for a safe working environment. He will delegate certain responsibilities to his Project Team. Ensure that all risks related in applying the LOTO to the system are assessed and preventive/mitigated measures and effectively implemented.

3.2. Construction Manager (CM)

· The Construction Manager will ensure that all Discipline Managers are familiar with the contents of this document and will further ensure the procedures identified are followed.

· He will arrange – through the Discipline Managers – relevant personnel to attend training sessions at the HSE Training Center so that they may also become familiar with this document and understand the importance of stringently applying the Lock out Tag out (LOTO) procedure in a uniform manner.

· The Construction Manager will also ensure that the correct items needed for an effective LOTO program are made available. Ensure that all risks related in applying the LOTO to the system are assessed and preventive/mitigated measures and effectively implemented.

3.3. HSE Manager (HSEM)

· Ensure that all persons involved in the locked out and/or tagged out are competent and suitably trained in LOTO.
· Ensure adequate resources is provided for the implementation of this requirement
Ensure that all risks related in applying the LOTO to the system are assessed and preventive/mitigated measures and effectively implemented.

3.4. Discipline Manager (Construction Team)

· Ensure that the nature of the work is fully described on the PTW form.
· Ensure that proper Job Safety Analysis (JSA) is provided and has identify all the hazards associated with job.
· Ensure that all the necessary precautions are implemented, including isolations, before work begins.
· Ensure that no interaction takes place between work activities which might endanger the safety of personnel or the installation.
· Undertake the risk and hazard assessment in conjunction with the task supervisors and other persons whose specialist knowledge may be needed.
· Ensure that all necessary work permits are secured, approved and completely processed before commencing work.

3.5. Pre-Commissioning & Commissioning Manager

· Establishing and implementing the LOTO program during the commissioning and pre commissioning phase of the project for all systems / equipment under the jurisdiction control of commissioning team.
· Designating an Isolating Authority (IA) qualified to authorized LOTOs for all system / equipment under the jurisdictional control of commissioning team.
· Ensuring the compliance of contract and site personnel with the LOTO procedure.
· Conducting periodic reviews of the site LOTO program.
Ensure that all risks related in applying the LOTO to the system are assessed and preventive/mitigated measures and effectively implemented.

3.6. Isolating Authority (IA) – Site Engineer of Maintenance, Electrical / Mechanical / Instrument

· Implement a lockout and / or tag out procedure on machines, equipment or electrical

appliances, etc.

· Isolating system / equipment, discharging energy, and placing lock and tags on energy isolation devices.

· To communicate with work permit issuer and work permit receiver.

· To countersign in the applied work permit

· To maintain energy Isolation logbook.

· Providing their own lock box with lock.

· To care all locks and keys.

· Trained and approved as competent person

3.7. Work Permit Issuer (WPI)

Conduct joint inspection with the Isolation Authority prior to issue the work permit and assess the risk/hazards and update the JSA and ensure mitigative measures implementation.

Ensuring that all personnel involved in lockout/tagout procedures are adequately trained. This includes training on identifying hazardous energy sources, applying lockout/tagout devices correctly, and understanding the risks associated with improper lockout/tagout practices.

Verify that the documentation related to lockout/tagout procedures, such as machine-specific lockout/tagout procedures, energy control procedures.

3.8. Work Permit Receiver (WPR) – (Site Engineer, Supervisor, Foremen,)

· Apply all the necessary permit before the work starts

· Ensure lockout and tag out (LOTO) system procedure on machines, equipment or electrical appliances, etc. are implemented.

· To conduct Tool Box Meeting.

4 DEFINITIONS

Affected employees – An employee whose job requires him/her to operate or use a machine or equipment on which servicing or maintenance is being performed under lockout or tagout, or whose job requires him/her to work in an area in which such servicing or maintenance is being performed.

Capable of being locked out – An energy isolating device is capable of being locked out if it has a hasp or other means of attachment to which, or through which, a lock can

be affixed, or it has a locking mechanism built into it. Other energy isolating devices are capable of being locked out, if lockout can be achieved without the need to dismantle, rebuild, or replace the energy isolating device or permanently alter its energy control capability.

Energized – Connected to an energy source or containing residual or stored energy.

Energy Isolating Device – A mechanical device that physically prevents the transmission or release of energy, including but not limited to the following: A manually operated electrical circuit breaker; a disconnect switch; a manually operated switch by which the conductors of a circuit can be disconnected from all ungrounded supply conductors, and, in addition, no pole can be operated independently; a line valve; a block; and any similar device used to block or isolate energy. Push buttons, selector switches and other control circuit type devices are not energy isolating devices.

Energy Source – Any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other energy.

Hot Tap – A procedure used in the repair, maintenance and services activities which involves welding on a piece of equipment (pipelines, vessels or tanks) under pressure, in order to install connections or appurtenances. It is commonly used to replace or add sections of pipeline without the interruption of service for air, gas, water, steam, and petrochemical distribution systems.

Isolation Authority – A person who locks out or tags out machines or equipment in order to perform servicing or maintenance on that machine or equipment. An affected employee becomes an authorized employee when that employee's duties include performing servicing or maintenance covered under this section.

Lockout – The placement of a lockout device on an energy isolating device, in accordance with an established procedure, ensuring that the energy isolating device and the equipment being controlled cannot be operated until the lockout device is removed.

Lockout Device – A device that utilizes a positive means such as a lock, either key or combination type, to hold an energy isolating device in the safe position and prevent the energizing of a machine or equipment. Included are blank flanges and bolted slip blinds.

Normal production operations – The utilization of a machine or equipment to perform its intended production function.

Servicing and/or Maintenance – Workplace activities such as constructing, installing, setting up, adjusting, inspecting, modifying, and maintaining and/or servicing machines or equipment. These activities include lubrication, cleaning or unjamming of machines or equipment and making adjustments or tool changes, where the employee may be exposed to the unexpected energization or startup of the equipment or release of hazardous energy.

Setting up – Any work performed to prepare a machine or equipment to perform its normal production operation.

Tagout – The placement of a bilingual tagout device on an energy isolating device, in accordance with an established procedure, to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is

removed.

Tagout Device – A prominent warning device, such as a bilingual tag and a means of attachment, which can be securely fastened to an energy isolating device in accordance with an established procedure, to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed.

Arc Flash Boundary – An approach limit at a distance from a prospective arc source within which a person could receive a second degree burn if an electrical arc flash were to occur.

Abbreviations

PM	Project Manager
CM	Construction Manager
HSEM	Health, Safety and Environment Manager
IA	Isolating Authority
WPI	Work Permit Issuer
WPR	Work Permit Receiver
LOTO	Lock Out Tag Out
AE	Affected Employee
EID	Energy Isolating Device
ES	Energy Source

HT	Hot Tap
TOD	Tagout Device
AFB	Arc Flash Boundary
PPE	Personal Protective Equipment
GI	General Instructions

5 TRAINING

- During the initial Contractor Health, Safety and Environment Induction for the AMIRAL PKG-4 PROJECT the subject of LOTO will be mentioned.
- The training session will be led by the HSE Trainer, and he could be assisted by competent engineers from the relevant crafts.
- Training material will be prepared will incorporate requirements from the Amiral CSM, Safety handbook and G.I. 6.012.

6 GENERAL IMPLEMENTATION

1. The Construction Manager will arrange to make available all necessary tools and equipment to implement this procedure. The items will include, but not be limited to the following:
   - Single keyed locks
   - Multiple-lock lockout clamps
   - Lockout device with cable
   - Lengths of suitable chain
   - Lockout tags (English and Arabic)
   - Marker pens
   - Personal Protective Equipment (PPE)
   -
2. Isolation of energy sources shall be in accordance with SA GI 6.012.

3. During job planning an isolation plan will be developed that will identify all locations to be isolated, types of isolating devices to be used and site/job specific procedures for isolating the equipment.

4. If the isolations are being carried out on piping the isolation plan must include a blind list if blinds are going to be used. The blind list will, as a minimum, include the following

- blind information:
- Blind number
- Blind rating
- Date of installation
- Location
- Installer name
- Date of removal
- Remover name

5. The isolation plan must be reviewed and verified by the relevant supervisory staff – Discipline Manager, Supervisor and Foreman – prior to the isolation being performed.

6. A Work Permit and Job Safety Analysis (JSA) must be included as part of the plan.

7. All necessary isolation and blinding equipment and devices – tags, locks, chains, clamps, blinds etc. - must be made ready and inspected prior to work commencing.

8. All forms of isolation (electrical, mechanical or otherwise) shall use the Lock/Hold Tag (SA Form 525) at every isolation point. For AMIRAL PKG-4 PROJECT Controlled Areas hold tags compliant with GI 6.012, and such as the examples provided will be used.

Information on the tags must include;

- Equipment/Plant number
- Location
- Equipment name
- Date and time of lock out
- Name, ID number, phone number and signature of the person that installed the lock
- The reason for the isolation

7 PERSONAL PROTECTIVE EQUIPMENT

Contractor shall provide Personal Protective Equipment to all personnel such as; Hard Hat, Non-conductive Safety Shoes, FRC Clothing, Arc Flash Suit/clothing, Sock hood, High Voltage Gloves, etc.
Employees are properly well oriented and well trained are only allowed to execute the

Electrical LOTO work execution
Personnel shall wear the proper arc rated clothing (e.g., arc flash suit) and when performing any task where there is a possibility that an arc flash may occur or when working within the Arc Flash Boundary of energized electrical equipment operated at higher than 240 volts.

8 LOCKOUT & TAGOUT (LOCK/TAG/CLEAR/TRY)

8.1. Electrical

Isolation shall be considered complete only when no associated control device is capable of energizing the equipment.
Employees those are properly well oriented and well trained are only allowed to execute the Electrical LOTO work execution.
In situations where it is not possible to lock out an isolating device, isolation may be accomplished by removal of fuses, disconnection of electrical cables, or physical removal of a component of the system supplying energy to the equipment. The point of physical interruption shall be identified with a fully completed hold tag.

Each Subcontractor issuing locks will have a system of uniquely identified locks. Acceptable methods include color coding locks appropriately.

Each lock shall be keyed separately, with no duplicate key, to ensure removal only by the authorized user.

Contractors those are authorized and trained shall be the first to install their lock(s) and shall be the last to remove them.

Subcontractors shall install their lock(s) at each corresponding isolation point. Every individual worker shall have in place his personal lock(s) at all lockout locations.

Work shall not be allowed to commence nor shall any maintenance material/device be placed on the isolated equipment until a verification test has been performed to ensure isolation has been correctly carried out and that no residual energy exists within the equipment.

"Clear" the area of all potential hazards associated with an accidental start-up (e.g., tools, materials, personnel at a hazardous location). Then a verification test (or "Try") shall be witnessed by all affected parties and shall be conducted for each potential energy source

for the equipment being isolated.

No padlock/lockout device shall be cut or forcefully removed without the permission of the lock owner's Manager and such actions shall be in accordance with GI 6.012.

8.2. Piping and Equipment Isolation and Blinding

It is anticipated that hydro-test activities will require lockout procedures to be applied and water will be the medium expected to be used. Owing to the high pressures involved this procedure will be followed during such activities. Piping or equipment shall be isolated and/or blinded and the contents drained, vented or purged before any work is performed (inspections, repairs, maintenance, modifications, etc.).

Contractor and Subcontractors will ensure that specific isolation, lock and hold tag procedures are in place to protect personnel when such activities are performed.

The levels of isolation are listed in the increasing order of protection (first being the lowest and last being the highest) and shall be applied accordingly depending on the nature of work. Please see the following table:

Method of Isolation	Degree of Protection	Examples of Use
Single block valve	Minimum	Changing a gauge or filter, swinging a blind (minimum routine maintenance
Double block and bleed	Medium	Removing a control valve
Disconnection (removal of a spool piece)	Maximum	Long term construction or maintenance work
Blinding	Maximum	Confined space entry – hot work

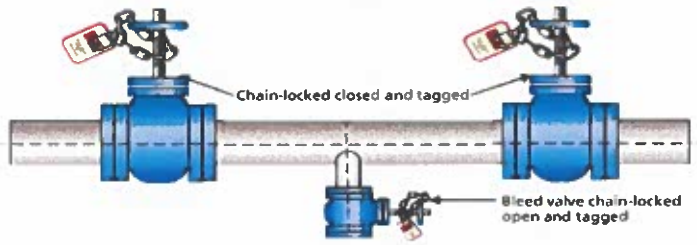
Notes:

- All means of isolation shall be locked and tagged accordingly.
- When using a single block valve, fluid shall be removed and valve tested for leakage before commencing work.

In order for Double Block & Bleed to be utilized, the subsequent bleed (vent/drain) valve

shall be adequately sized in order to handle the upstream pressure in the event the first isolation valve fails/passes. Vents and drains shall be verified to be clear of obstruction.

Diagram 1

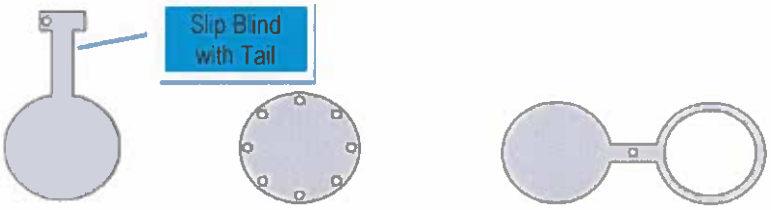


Double Block and Bleed Assembly showing Chains, Locks and Tags

Single block valve and DB&B isolations shall not be used when equipment or a piping containing hazardous materials is to be opened for confined space entry or hot work activities. Both activities require isolation by blinding or isolation.

Blinding involves inserting a slip blind or blind flange at a flanged joint or a swinging (rolling) a spectacle blind if provided by design.

Diagram 2



Slip Blind Blind Flange Spectacle Blind

The rating, size and location of all blinds shall be verified prior to installation and shall be reflected on the blind list. Each blind shall be stamped with the corresponding pressure rating and installed with matching gaskets. Temporary blinds shall be of a specific color to be easily identified.

Blind gaskets shall be inspected for damage prior to installing/swinging blinds.

Written procedures shall be developed and implemented for major equipment with multiple connections and several low points where hazardous materials might remain

trapped.

These written procedures shall include, but not be limited to:

- Drawings (P&IDs, isometric drawings, etc.) indicating all isolation points, drains and vents.
- The blind list, to track installation (and later removal) of all blinds.
- The steps or sequence for depressurization, draining and purging of equipment and associated piping before blinds are inserted.
- Site preparation steps (e.g., covering sewers).
- Proper sequence for installing blinds.
- Safe venting and disposal of any drained material.
- Associated equipment and piping shall be isolated by closing block valves, depressurization, draining and purging (for flammable/toxic service piping).
- Valves shall be chain-lock closed and tagged before opening the flange and shall remain so while any blinds are in place.
- Valve locks and tags can be removed when the subsequent blinds are removed and the flanged connection restored to its original condition.
- A release permit shall be issued before commencing any blinding activity. Blind swinging/insertion shall be covered by a Hot or Cold Work permit as well, depending on the circumstances" as per clause 5.5.14 of SA-AMI-000-ECST-000001.
- Piping sections with valves on each end, drains at low points and vents at high points shall be isolated, depressurized and drained prior to work.
- Piping that has no drains or vents shall not be opened.

During AMIRAL PKG-4 PROJECT construction activities and prior to the start of commissioning it is not anticipated to have any hazardous substance inside pipework. Prior to the start of commissioning activities this procedure will be revised.

Blind swinging/insertion shall be covered by a Hot or Cold Work Permit, depending on the circumstances.

Blinding shall be performed by loosening the bolts and cracking the flanged connection at the "5 o'clock position" (down and away from the person performing the work) to allow any potential pressure or liquids to be released away from personnel.

When equipment (e.g., pump, meter or filter) is removed from service for construction

activities, subsequent blinds shall be required for associated piping.

Blinds shall be inserted only at the isolated side (i.e., downstream) of each isolation valve that has been locked closed and tagged.
Blinds shall be accessible and scaffolding shall be provided where necessary

The first blind inserted shall be the last to be removed.

All bolt holes of the blind and corresponding flange connection shall be used when installing blinds.

All slip blinds shall have tails as shown in Diagram 2.

8.3. Mechanical Isolation

Preparation for shutdown. Before an authorized or affected employee turns off a machine or equipment, the authorized employee shall have knowledge of the type and magnitude of the energy, the hazards of the energy to be controlled, and the method or means to control the energy.

Machine or equipment shutdown. The machine or equipment shall be turned off or shut down using the procedures established for the machine or equipment. An orderly shutdown must be utilized to avoid any additional or increased hazard(s) to employees as a result of the equipment stoppage.

All energy isolating devices that are needed to control the energy to the machine or equipment shall be physically located and operated in such a manner as to isolate the machine or equipment from the energy source(s).

Lockout or tagout devices shall be affixed to each energy isolating device by authorized employees.

Lockout devices, where used, shall be affixed in a manner to that will hold the energy isolating devices in a "safe" or "off" position.

Tagout devices, where used, shall be affixed in such a manner as will clearly indicate that the operation or movement of energy isolating devices from the "safe" or "off" position is prohibited.

Where tagout devices are used with energy isolating devices designed with the capability of being locked, the tag attachment shall be fastened at the same point at which the lock would have been attached.

Where a tag cannot be affixed directly to the energy isolating device, the tag shall be located as close as safely possible to the device, in a position that will be immediately obvious to anyone attempting to operate the device.

8.4. Stored Energy

Following the application of lockout or tagout devices to energy isolating devices, all potentially hazardous stored or residual energy shall be relieved, disconnected, restrained, and otherwise rendered safe.

If there is a possibility of re-accumulation of stored energy to a hazardous level, verification of isolation shall be continued until the servicing or maintenance is completed, or until the possibility of such accumulation no longer exists.

8.5. Verification of Isolation.

Prior to starting work on machines or equipment that have been locked out or tagged out, the Isolation Authority (IA) shall verify that isolation and de-energization of the machine or equipment have been accomplished.

8.6. Release from Lockout or Tagout.

Before lockout or tagout devices are removed and energy is restored to the machine or equipment, procedures shall be followed and actions taken by the Isolation Authority (IA) to ensure the following:

- The machine or equipment will be inspected to ensure that non-essential items have been removed and to ensure that machine or equipment components are operationally intact.
- The work area shall be checked to ensure that all employees have been safely positioned or removed.
- After lockout or tagout devices have been removed and before a machine or equipment is started, affected employees shall be notified that the lockout or tagout device(s) have been removed.

8.7. Lockout or Tagout Devices Removal.

Each lockout or tagout device shall be removed from each energy isolating device by the trained and authorized employee who applied the device.

8.8. Exception

When the Isolation Authority (IA) who applied the lockout or tagout device is not available to remove it, that device may be removed under the direction of the Construction Manager, provided that the specific procedures for such removal are followed. The Construction Manager shall demonstrate that the specific procedure provides equivalent safety to the removal of the device by the Isolation Authority who applied it. The procedure will include at least the following elements:

- Compliance with SA GI 6.012
- Verification that the authorized employee is not at work
- All reasonable efforts have been made to contact the Isolation Authority
- Ensuring that the authorized employee has the knowledge his lock has been cut or tag removed before he resumes work at the location

8.9. Procedures at Shift Change

Where keys are kept in a key safe the custody of the safe shall form part of the shift handover procedures. During construction it is not anticipated to have shift work. Should this occur the transfer procedures will follow those described in the CSM. This transfer requires the craft supervisors to conduct a detailed review of installed locks and tags. Hold tags belonging to the original shift crew will be signed by the oncoming shift personnel, or entirely new tags will be completed by the incoming shift and installed to replace the original shift's hold tags.

9 LOTO ISOLATION REQUEST PROCEDURE:

Step 1 – Work Permit Request and Job Description
WPR request for a work permit and LOTO Isolation Request, he will clearly make a request in writing LOTO Isolation Request with the details of the equipment to be worked. Following steps for the LOTO shall be initiated such as, 1) Prepare for shutdown. 2) Notifying all affected employees of the activities and equipment involved. 3) Shutdown the equipment.

4) Isolating the equipment from the hazardous energy source. 5) Dissipation of residual energy. 6) Applying applicable LOTO devices.
Isolating Authority (IA) will review the work permit request and he will identify whether the work requires isolation or not. If the IA determines that this work permit request cannot be approved based on safety and operational reason the work permit request will be rejected immediately.
If the requested work permit doesn't need any isolation, the work permit will be approved, and the contents of the work shall be just shared to the WPI to issue the work permit.
If the requested work permit need any isolation the IA will prepare the isolation list.
Step 2 – Isolation List Preparation
Isolation list will be prepared by the Isolation Authority (IA). Isolation device number should be included and the area where the equipment is located should also be mentioned on it.
Isolation authority shall decide on the isolation requirement as per scope of the work. Clearly list out all isolation points with the isolation devices numbers and all information in a switching order and isolation list. Considering the steps and sequence of isolation to control hazardous energy.
Step 3 – Physical Isolation
The Isolation Authority shall carry out isolation as per the isolation list and place all isolating devices in safe position as noted on the isolation list.
After placing the isolating device in safe position, Isolation Authority will now place the lock and tag on the isolating devices. All the keys will be place on the WPR's lock box secured by the Isolating Authority with another lock.
Once Isolating Authority placed their lock to the WPR's lock box, the WPR will now place his own lock to his lock box, then the WPR will place his lock box the Issuer office.
Step 4 – Joint Validation
Joint validation of tags and lock by the WPI, IA and WPR shall be carried out prior to issuing the approval of work to ensure that the proper tags and lock are hung on the proper piece of equipment and that piece of equipment has been disabled in proper position and the stores energy has been released.
Step 5 – Approval
When the WPI is satisfied that all of the above checks have been carried out he will now sign the work permit.
The approved and original copy of LOTO Isolation Request should be placed on the Issuer office.

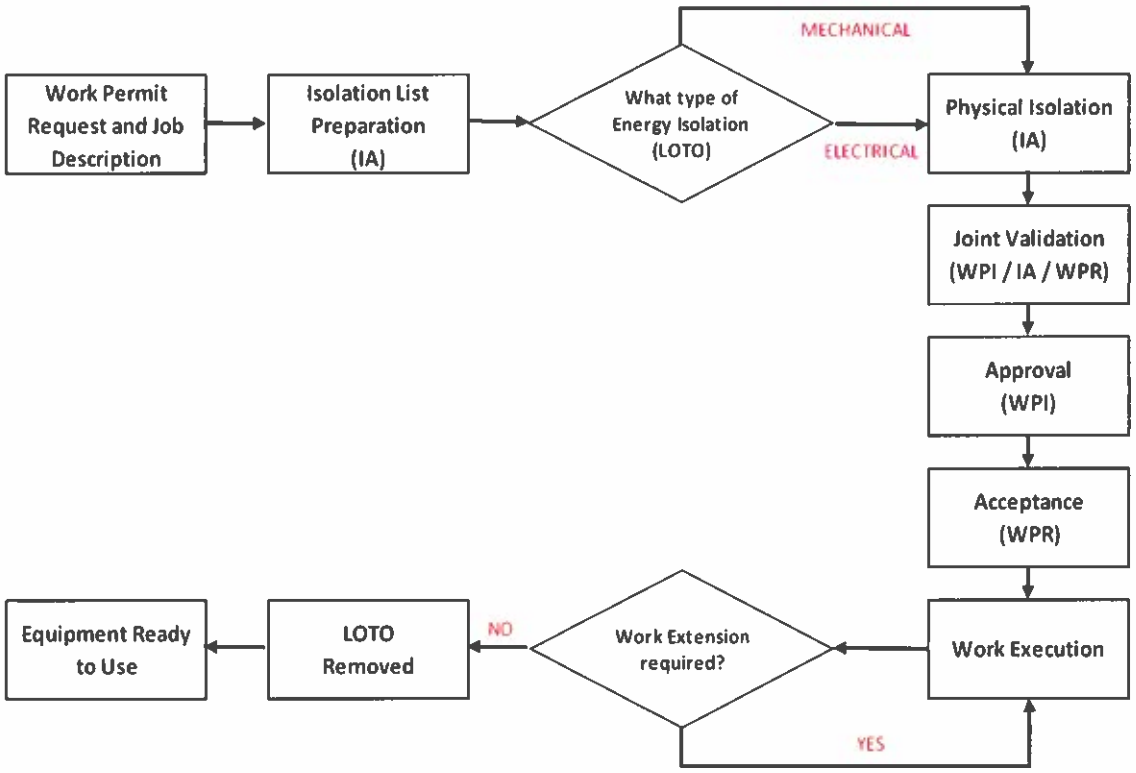
Step 6 – Acceptance
The approved work permit will now issue to the WPR. After receiving the work permit, WPR will conduct a pre–job briefing to all his work crew regarding the activity to be carried out.
Step 7 – Release
After the completion of work, WPR will sign off the LOTO Isolation Request and the lock will be removed from the WPR's lock box.
Removal and de-isolation of physical isolation, locking and tagging of equipment.
Step 8 – Equipment ready to use
Upon completion and removal of the locks and tags, the equipment will now be resume in operation.

10 REFERENCES

- Amiral (CSM)
- Saudi Aramco Safety Handbook
- Saudi Aramco General Instruction G.I 6.012 – Isolation, lockout and Use of Hold Tags
- Hot or cold permit as per clause 5.5.14 of SA-AMI-000-ECST-000001
- Arc rated face shield higher than 240 volts as per Supplement 2.721-2.
- Specific Lock/Hold tag (SA Form 525)

11 ATTACHMENTS

11.1. LOTO Work Permit Flow Chart



11.2. LOTO Isolation Request

HYUNDAI

LOTO ISOLATION REQUEST

[MP PK005 – ONSHORE OIL FACILITIES PROJECT] Work Permit No.: _____

Step 1. Work Permit Request and Job Description

Location of Work:		JSA No.:	
Job Description:			
Attachment:	☐ P&ID, SLD, Plot plan, etc. ☐ Others		
Equipment Description:		Equipment Number:	
Permit Start Date:		Permit End Date:	

Requested By:

Company:	Name (PTW Receiver)	Signature:	Contact Number:	Date:

Step 2. Isolation List Preparation

1) LOTO Isolation Request ☐ Accepted ☐ Rejected IA Name:_____ Signature: _____ Date: _____

2) Isolation Required? ☐ Yes ☐ No IA Name:_____ Signature: _____ Date: _____

3) Approval of Work without Isolation IA Name:_____ Signature: _____ Date: _____

4) Isolation list Sheet as below. If there is not enough space for describing attachment to be used

Electrical Isolations

Equipment Number	Description	Lock No.	Isolation position (On/Off)

Mechanical, I&C Isolations

Equipment Number	Description	Lock No.	Isolation position (Open/Close)

I confirm that the Isolation List prepared contains all the devices/components to be isolated to deliver the equipment in zero energy state to the working group.

Name (IA): _____ Signature: _____ Date: _____ Time: _____

Step 3. Physical Isolation, Locking and tagging of Equipment

I confirm that the Physical Isolation, Locking and tagging of Equipment has been done based on the Isolation List Preparation and equipment in zero energy state to the working group

Name (IA): _____ Signature: _____ Date: _____ Time: _____

Step 4. Joint Validation of Isolation, locking and tagging of equipment

We confirm that we have performed joint validation of isolation, locking and tagging in the field and that the equipment is now in zero energy state and safe to work on.

Name (IA) _____ Signature _____ Date _____ Time _____

Name (WPR) _____ Signature _____ Date _____ Time _____

Name (WPI) _____ Signature _____ Date _____ Time _____

Step 5. Approval

I approve and authorize commencement of work and confirm the equipment is now in zero energy state and safe to work on. I also confirm that I have reviewed the JSA prepared for this activity and all control measures are in place for the existing/potential hazards identified.

Name (WPI) _____ Signature _____ Date _____ Time _____

After initial approval, this work permit can be extended up to 7 days only, and it needs to be signed by the WPI day by day.

1st Week	DD/MM/YY						
Responsible person	1st ( ) Signature	2nd ( ) Signature	3rd ( ) Signature	4th ( ) Signature	5th ( ) Signature	6th ( ) Signature	7th ( ) Signature
Work Permit Extension Requester (WPR)							
Work Permit Extension Approver (WPI)							

Step 6. Acceptance

As WPR, I have placed my lock on lock box No. _____ and accept this LOTO. I have gone through the JSA and will provide Pre-Job Briefing to my working group. If the work scope changes/deviates from the original work request, I will submit other work request.

Step 7. Release

As WPR, I have completed the work mentioned in Step.1, Detailed Job Description, thus I hereby unplaced my lock on lock box No. _____

LOTO Acceptance					LOTO Release				
Company	Name	Signature	Date	Time	Company	Name	Signature	Date	Time

Mechanical, Electrical, I&C De-isolation performed, Locks and Tags Removed in the Area, and I confirm that all tag (and portable earth and ground wires) as identified in the Isolation List have been removed and surrendered to me.

Name (IA): _____ Signature: _____ Date: _____ Time: _____

Name (WPI): _____ Signature: _____ Date: _____ Time: _____

Step 8. Equipment Ready for Use

As Isolation Authority (IA), I confirm that the relevant equipment/system has restored, normalized and ready for operational use.

Name (IA): _____ Signature: _____ Date: _____ Time: _____

HYUNDAI ENGINEERING & CONSTRUCTION

ISOLATION LIST

[MIP PKG06 – ONSHORE OIL FACILITIES PROJECT]

Work Permit No : ______________________ Page _____ of _____

Electrical Isolations

Equipment Number	Description	Lock No	Isolation position (On/Off)

Mechanical, I&C Isolations

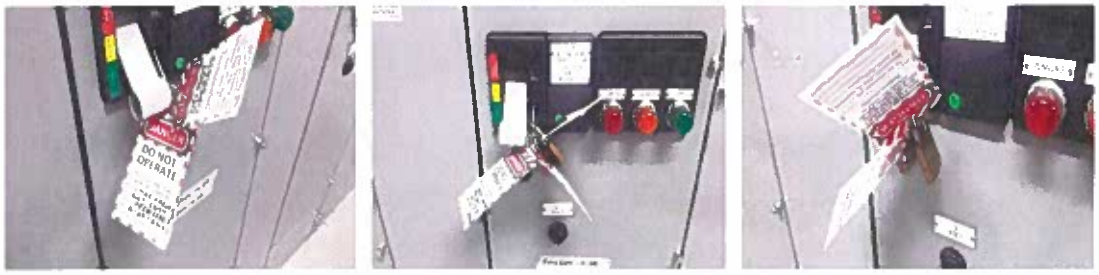
Equipment Number	Description	Lock No	Isolation position (Open/Close)

I confirm that the Isolation List prepared contains all the devices/components to be isolated to deliver the equipment in zero energy state to the working group.

Name (IA) __________ Signature __________ Date __________ Time __________

11.3. Tag Out Sample

11.4. Lock-Out Sample



11.5. Multi-Lockout Hasp

11.6. Valve Wheel Lockout

11.7. Helmet Decals

Helmet Decal Issued after Training