Lock Out Tag Out (LOTO) Safety Procedure

HEALTH, SAFETY AND ENVIRONMENT PROCEDURE

Lock Out Tag Out (LOTO) Safety Procedure

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<thead>
<tr>
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<th>Document Custodian</th>
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</thead>
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<td>P.O.G.C</td>
<td>HSE</td>
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</tbody>
</table>

Document Author

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Approved By

M. Ansari
# Table of Contents

1. INTRODUCTION ............................................................................................ 3  
2. PURPOSE ......................................................................................................... 3  
3. SCOPE ............................................................................................................... 3  
4. RESPONSIBILITIES ...................................................................................... 3  
5. PROCEDURE ................................................................................................... 5  
   5.1 GENERAL ........................................................................................................ 5  
   5.2 REQUIREMENTS FOR ISOLATION OF MACHINERY/EQUIPMENT ........ 6  
   5.3 SWI FOR THE ISOLATION OF MACHINERY/EQUIPMENT .......... 7  
   5.4 SUPPLIERS, DESIGNERS, MANUFACTURERS .......................................... 7  
   5.5 ISOLATION OF MACHINERY/EQUIPMENT .......................................... 7  
   5.6 ISOLATION OF MACHINERY/EQUIPMENT ................................................. 8  
6. TRAINING and RETRAINING ..................................................................... 9  
7. DEFINITIONS ................................................................................................ 10  
8. REFERENCES ............................................................................................... 12  
9. APPENDIXES ................................................................................................. 12  

SUGGESTION FORM
1. INTRODUCTION

Pars Oil and Gas Company (POGC), a subsidiary of National Iranian Oil Company (NIOC), was established in 1998. POGC is a developmental and manufacturing organization that specializes in the fields of engineering and management of development projects, production, operation and integrated management of oil and gas reservoirs. POGC’s mission is to ensure sustainable and preservative production and development of Iran’s oil and gas industry in the areas under its responsibility, development of oil and gas value chain as well as optimization of energy supply processes at national, regional and international levels. POGC is also in charge of development of joint and non-joint oil and gas fields of the country including South Pars, North Pars, Golshan and Ferdowsi.

Aimed at creating superior value and boosting the level of satisfaction of the beneficiaries and with an approach focusing on sustainable, integrated and knowledge-oriented production and development, the company feels committed to comply with national and international requirements, regulations and standards in such areas as quality, safety, as well as occupational and environmental health.

2. PURPOSE

This procedure aims to prevent injury or risk of fatality to all employees and staff caused by the unexpected energizing, start-up or release of stored energy when working on equipment, machinery or systems. LOTO system programs to use energy isolating devices to disable machines or equipments to prevent unexpected start up or release of stored energy that may cause injuries.

3. SCOPE

This procedure covers the servicing and maintenance of machines and equipment in which the unexpected energizing or start-up of the machines or equipment, or release of stored energy, could cause injury to employees and safety statement to protect all employees in South Pars field from the hazards of energy sources by the safe method of locking and tagging of isolated devices. This document establishes minimum performance requirements for the control of such hazardous energy for protection

4. RESPOSIBILITIES

4.1 Commissioning Manager/Shift SI
- Ensuring that all persons working are aware of, and comply with the relevant points from this Safety Procedure.

4.2 Field Supervisor
- The Field Supervisor is responsible for:
  - Ensuring that all procedures and safeguards are fully implemented.
  - Preparation of the work-site to ensure that activities will be conducted safely.
  - Monitoring the PTW of the significant activity and supervision of lock out tag out system after a safe isolation.
Safety supervisor / Safety Engineer
The Safety supervisor / Safety Engineer are responsible for:
- Monitoring the safety of all working practices all over the gas plant.
- Ensuring about safety performance of LOTO according to this procedure.
- Close cooperation and coordination with substation operators and field operators due to LOTO system.

Substation operator
- Substation operator must be fully trained and aware of LOTO system.
- He must have a good cooperation with Safety supervisor and field operator and to perform LOTO system within electrically isolated devices according to this procedure.

Head of Maintenance
- Head of maintenance must have a supreme control on the performing LOTO system during any maintenance activity, he must also be sure that all his employees and subcontractors have been trained properly about LOTO system according to this procedure.

Departments & Contractors
- Main Contractors and subcontractors which are subject to LOTO system are responsible for establishing and documenting Lock out Tag Out procedures. Some available resources to assist departments include: Equipment manufacturers, their service representatives or; the equipment operator’s manual, can provide information on how to safely isolate the equipment’s energy source(s) during service or maintenance activities. These procedures shall apply to each piece of equipment, machinery or system under the department’s control that is serviced and maintained by the department’s employees. Procedures may be established for classes of equipment or machinery if their function and operation are similar and the procedure can collectively account for the control of all hazardous energy sources. Main Contractors and subcontractors must evaluate and document the effectiveness of their Lock Out Tag Out system each year and correct any noted deficiencies. The departmental system must meet the following requirements:

Authorization through Training and Qualification
- All persons must be authorized through training and qualification on the departmental Lock Out procedures for the equipment and machinery they are assigned to work on. This training must be completed before they can perform any service or maintenance. Training and qualification must include understanding safe operation of the equipment and the use of the Lock Out devices and warning tags provided by the department.

Lock out Devices, Individually Keyed Padlocks and Warning Tags
- All departments must provide appropriate lock out devices, individually keyed padlocks and warning tags to each Authorized Person. Affected personnel who will be assigned to work on a locked out piece of equipment, machinery or system including
working in a controlled area, must be provided with his individual padlock and warning tag.

**Lockable Energy Isolation Device**

- Main Contractors are responsible for requesting the installation of lockable energy isolation devices onto their equipment or machinery whenever there is major replacement, repairs, renovation or modification to the equipment. Generally, the referenced equipment and machinery is production equipment and Facilities equipment (i.e., HVAC, fans, motors, boilers, etc.). All equipment and machinery must include specifications that the energy isolation device(s) are lockable.

5. **PROCEDURE**

5.1 **General:**

The unexpected energization, start-up or release of stored energy during operation, servicing or maintenance work (e.g. inspection, repair, adjustment, cleaning), on machinery or equipment can lead to serious worker injuries. To prevent accidental release or transmission of energy, appropriate procedures must be implemented to deactivate the specific machine or equipment, to isolate it from its energy source, and to lock and tag out the energy isolating device (e.g. breaker, switch, valve, blocks, disconnect switch).

“Lockout” is the placement of a locking device on an energy isolation device (circuit breaker, slide gate, line valve, switch, etc.) to insure the energy isolating device and equipment being controlled, cannot be operated until the lockout device is removed. A lockout device utilizes a positive means such as a lock (key or combination type) to hold an energy isolating device in a safe position and prevent the energization of a machine or equipment. The lockout device must be substantial enough to prevent removal without use of excessive force or unusual techniques.

“Tag out” is the placement of a tag out device (a tag or other prominent warning device and a means of attachment) on an energy isolation device to indicate the energy isolating device and equipment being controlled may not be operated until the tag out device is removed. The lockout device must be used unless the employer can demonstrate that the utilization of a tag out system will provide full employee protection. The tag out device must be non-reusable and attached by hand. The tag out program must provide a level of safety equivalent to a lockout program.

Supervisors must conduct an assessment of the machine or equipment and all associated energy sources (i.e. electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other) in order to determine the appropriate lockout/tagout procedures.

**Requirements for Lockout/Tagout Procedures**

Written lockout/tagout procedures specific to a particular machine or equipment, or to a similar grouping of machines or equipment, must outline the situations in which they are to be used, and the sequence in which they are to be used.

Lockout/tagout procedures shall clearly define the specific actions and responsibilities required during each of the following energy control sequences:

1) Preparation for shutdown
2) Equipment shutdown
3) Equipment isolation from the energy source  
4) Application of lockout/tagout devices  
5) Release of stored energy, de-energization  
6) Verification of isolation  
7) Release from lockout/tagout control once work is completed, including removal of lockout/tagout devices and restoration of energy to machinery/equipment.

**Lockout and Tagout Devices**
A combination of a lockout device and a tagout device shall be used for all lockable energy isolating devices. The lockout device (e.g. padlock) physically prevents the energizing of the machine or equipment. The tagout device (tag, sign) provides information about the nature of the lockout and warns workers to not operate the particular machine/equipment/device. A tagout device is also used when an energy isolating device is not lockable, along with additional protective measures to ensure maximum worker protection.

Each worker involved in service or maintenance work must apply his/her own assigned personal lock, and carry his/her own key. Combination type locks or locks with master or duplicate keys must not be used.

**Lockout and tag out devices must be:**
- durable for the environment in which they will be used;  
- sturdy enough to minimize early or accidental removal;  
- unique, distinctive, easily recognizable and clearly visible;  
- standardized as to color, shape, size, type or format; and  
- identifiable as to the worker(s) authorizing or applying them.

This procedure is essentials to all employees subject to any isolation of energy sources and LOTO system to fully study and understand it and follow it within all activities such as working on pipelines, confined spaces, electrical devices or any other energized devices.

**5.2 REQUIREMENTS FOR ISOLATION OF MACHINERY/EQUIPMENT**
- Where energy sources are present, instructions for the isolation and re-activation of machinery/equipment need to be developed for each piece of machinery/equipment as part of their safe work instructions (SWI).  
- The detail of the instructions will depend upon the identification and assessment of the hazards through the risk assessment process and consequential risks involved with each piece of machinery/equipment.  
- It is essential that managers and supervisors carry out this assessment and put into place control measures including machinery/equipment isolation instructions before the machinery/equipment becomes operational.  
- Isolation points, which can be locked or tagged out, should be provided along the route of each potential energy source where practicable.
5.3 SWI FOR THE ISOLATION OF MACHINERY/EQUIPMENT

SWI for isolation of machinery/equipment must include:

- the situation under which the isolation procedure is to be implemented;
- the means and sequence by which the isolation will be achieved;
- the checks that are to be performed prior to the commencement of work;
- name/position of persons authorised to perform checks or issue permits (if required) related to isolation for the work location and the work to be done; and
- any other special requirements for the isolation of machinery/equipment or re-energization.

5.4 INFORMATION FROM SUPPLIERS, DESIGNERS, MANUFACTURERS AND IMPORTERS OF MACHINERY/EQUIPMENT

Suppliers, designers, manufacturers and importers of the machinery/equipment have a legal obligation to supply sufficient information to enable the safe operation and maintenance of the machinery/equipment including isolation and the risks associated with the machinery/equipment during repair, service or maintenance.

5.5 ISOLATION OF MACHINERY/EQUIPMENT

5.5.1 Using the hierarchy of control

- When isolating or removing machinery/equipment from service, it is important to consider the hierarchy of controls in the type of isolation used.
- Engineering controls must be used in preference to administrative controls due to their increased effectiveness.
- An isolation tag gives the least protection whilst isolation using a locking device and removal from service through physical relocation or the use of barricades where practicable provide a higher level of protection to the users of the area and maintenance personnel.

5.5.2 Portable machinery/equipment

- Turning off the power supply and removing the plug from the supply socket (if safe to do so) can normally isolate simple portable type machinery/equipment.
- A tag or physical restraint device can then be applied as per this procedure

5.5.3 Multiple parties working on machinery/equipment

- Typically the repair, service or maintenance work on a piece of machinery/equipment may involve different groups, service providers or organisations.
- The group that is responsible for the day-to-day operations of that machinery/equipment has the primary responsibility for the safety and safe operation of the machinery/equipment.
• If the repair, service or maintenance work is undertaken by another group or contractor, the laboratory/studio/workshop supervisor or responsible officer must ensure that appropriate isolation procedures are being followed and that the other group or contractor is competent in the work they are expected to carry out.

• For work involving a second party, a two-tag isolation system must be used. This involves the use of tags or locking devices for the work location and a separate tag or locking device for the group undertaking the work. In this case both parties must remove their own tags or locks on completion of the work.

5.5.4 Removal of isolation tags or devices

• Accidental removal of the isolation tag or device must be rectified immediately. This requires placing an isolation tag or device of your own on the machinery/equipment and the immediate notification of the removed isolation tag directly or to the laboratory/studio/workshop supervisor or responsible officer.

• The incident must be reported through HSE MANAGER and Incident Reporting procedure.

• Isolation tags and devices are not to be used for any other purpose other than those directed in this procedure.

5.6 PROCEDURES FOR THE ISOLATION OF MACHINERY/EQUIPMENT

5.6.1 If safe to do so, stop machinery/equipment and isolate each energy source according to SWI or isolation documentation for the machinery/equipment.

5.6.2 A yellow & black, 'Caution', isolation tag must be completed, signed and secured to each isolation device at a prominent position. The laboratory/studio/workshop supervisor or responsible officer must be notified of the machinery/equipment failure and isolation.

5.6.3 The laboratory/studio/workshop supervisor or responsible officer must check that machinery/equipment is isolated effectively and is de-energised for safe repair, service or maintenance work. Isolation locally, at points along the energy route, as well as at the energy source where practicable, is preferred.
5.6.5 The laboratory/studio/workshop supervisor or responsible officer may remove original tag and re-tag out machinery/equipment with his or her own completed and signed 'Caution' tag, if required.

- Any further isolation such as locking devices or removal from service should also take place at this time.
- It is good practice to communicate to relevant personnel that the machinery/equipment is out of service and why.
- The 'Caution' tag must remain on the machinery/equipment until machinery/equipment is fully repaired and ready to be re-energized.

5.6.6 Machinery/equipment may then undergo repair, service or maintenance work by competent service providers or authorised personnel.

- These personnel must securely apply a completed and signed white & red 'Danger' tag and isolation device to each isolated energy source.
- Each member of the service provider must check the isolation of the machinery/equipment and use individual tags and isolation devices on each of the isolation points along the route of the energy source.
- A 'Danger' tag may only be removed by the person who applied and signed the tag, unless in an emergency.

5.6.7 Until all tags are removed, the machinery/equipment must remain out of service. Once removed, any tags must be destroyed and not reused.

5.6.8 Re-energising of the machinery/equipment or section must be performed according to the reactivation procedure of the machinery/equipment or under the supervision of the laboratory/studio/workshop supervisor or responsible officer, ensuring all energy sources are clear, safe to activate and that protective guarding or interlocks are operational.

6. TRAINING and RETRAINING

All employees subject to LOTO system shall be trained so that they understand the purpose and function of the LOTO system and procedures.
Training must include recognition of warning tags, lock out devices, and that tags and locks can only be removed by the Authorized Person who took the equipment or machine out of operation.
Training shall include the following:

- Each authorized employee shall receive training in the recognition of applicable hazardous energy sources, the type and magnitude of the energy available in the workplace, and the methods and means necessary for energy isolation and control.
- Each affected employee shall be instructed in the purpose and use of the energy control procedure.
- Training Centre shall conduct hazardous energy control training for all authorized employees.
• All other employees whose work operations are or may be in an area where energy control procedures may be utilized, shall be instructed about the procedure, and about the prohibition relating to attempts to restart or reenergize machines or equipment which are locked out or tagged out.
• Supervisors shall receive training on their supervisory responsibilities.

Retraining shall include the following:
• whenever there is a change in job assignment, machines, equipment or processes that present a new hazard or a change in the energy control procedures.
• Retraining shall be provided for all authorized and affected employees whenever there is a change in their job assignments, a change in machines, equipment or process that present a new hazard, or when there is a change in the energy control procedures.
• Additional retraining shall also be conducted whenever a periodic inspection reveals, or there is reason to believe that there are deviations from or inadequacies in the employees’ knowledge or use of the energy control procedure
• The retraining shall reestablish employee proficiency and introduce new or revised control methods and procedures as necessary.
• The trainer shall certify that employee training has been accomplished and is being kept up to date. The certification shall contain each employee’s name and dates of training

**Record Keeping**
Main Contractor training centre will maintain training records, including each employee's name and dates of training.
Main Contractor HSE Department will retain records of the annual Lockout / Tag out system audit.

**7. DEFINITIONS:**

**Affected Person(s):** Affected person is any employee who has been designated by his department to operate equipments, machineries or systems that can be affected during the shutdowns for service and/or maintenance. Shutdowns are performed by Authorized Persons using Lock out procedures. In addition, personnel may be affected by shutdowns and Lock out procedures when they are working in controlled spaces (e.g., electrical power to work area is secured during renovation, demolition activities or abatement of hazardous materials).

**Authorized Person(s):** Authorized Person is any employee who has been designated by his department to perform maintenance or service on a piece(s) of equipment, machinery or system and is qualified to perform the work through proper training on the Lock out Tag Out procedures for the equipment, machinery or system.

**Cord and Plug-connected Equipment:** Equipment that is powered by an electrical energy source that can be shut down by removing the cord and plug from the energy source.
**Energy Isolation Device:** A mechanical device that is part of a piece of equipment, machinery or system that physically prevents the transmission or release of energy. Some examples include manually operated electrical circuit breakers; disconnect switches, slide gates, line valves and blocks.

**Energy Source:** An "energy source" is any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other energy.

**Locks:** An individually keyed padlock personally assigned to an Authorized Person or Affected Person that is used with a lock out device to control and isolate energy sources.

**LOTO:** Lock out Tag Out

**Lock Out:** The placement of a Lock out Device including a padlock on the Energy Isolating Device of a piece of equipment, machinery or system. The placement is done in accordance with the department’s established procedures to ensure the energy isolation device and equipment being controlled cannot be operated until the lock out device is removed. Only the Authorized Person who placed the lock on can remove it (under control PTW system) at the completion of the job. Procedures must include those conditions when personnel other that the Authorized Person can also be affected by accidental release of hazardous energy. An example would be multiple personnel performing work activities in a controlled space (e.g., electrical power has been secured to a work area, equipment, machinery or system). During Lock outs by multiple personnel, the equipment, machinery or system must remain secured until the last Authorized or Affected personnel has completed his work task and has removed his lock.

**Lock Out Device:** A device that uses a positive means such as a lock to hold an Energy Isolation Device safely and prevent the start up of a machine or equipment. Lock Out devices include valve wheel covers, ball valve locks, locks for circuit breakers, and plug and switch plate locks.

**POGC:** Pars Oil & Gas Company

**Servicing or Maintenance Activities:** Workplace activities that include but are not limited to: installing, setting up, inspecting or maintaining equipment; and lubrication, cleaning and making tool changes where the employee may be exposed to the unexpected energizing of the equipment or release of hazardous energy.

**SWI:** Safe Working Instruction

**Tag Out:** Posting a prominent warning tag with durable string onto the energy isolation device and/or lock out device of the piece of equipment, machinery or system being controlled. This tag documents the Authorized Person taking the equipment out of operation and the date. It is a warning to others that the equipment cannot be put back into operation until the tag and lock under control of PTW system have been removed by the Authorized Person.
**Zero Mechanical State:** The mechanical potential energy of all portions of the equipment or machine is set so that the opening of pipes, tubes, hoses or actuation of any valve, lever or button, will not produce a movement which could cause injury

8. **REFERENCES :**
OSHA Hazardous Energy Control Standard - CFR 1910.147

9. **APPENDIXES :**
APPENDIX 1 : FLOW CHART FOR THE ISOLATION OF MACHINERY/EQUIPMENT
APPENDIX 2 : A GUIDE TO ISOLATION DEVICES AND THEIR USE
APPENDIX 3 : GENERAL LOCKOUT GUIDELINES ACCORDING TO ENERGY FORMS AND SOURCES*
APPENDIX 4 : TAG SAMPLE
APPENDIX 1 : FLOW CHART FOR THE ISOLATION OF MACHINERY/EQUIPMENT

Stop machinery/equipment and isolate energy sources

Apply a Yellow and Black 'Caution' tag securely to the machinery/equipment

Laboratory/studio/workshop supervisor or responsible officer checks isolation

Machinery/equipment is serviced, maintained or repaired. Each individual uses a red and white 'Danger' tag on isolation points

Once repaired all tags are removed

Machinery/equipment reactivated under supervision of laboratory/studio/workshop supervisor or responsible officer

- Refer SWI
- Disconnect portable machinery/equipment from power point (if safe to do so)

- Inform laboratory/studio/workshop supervisor
- Ensure tag is in prominent position

- Replaces tag with own if required
- Ensures isolation is adequate
- Uses appropriate hierarchy of controls to isolate

Each individual working on machinery/equipment:
- ensures isolation is adequate
- uses appropriate hierarchy of controls to isolate
- may only remove their own 'Danger' tag
- may remove 'Caution' tag to repair machinery/equipment

- Refer to SWI
- Ensure all energy sources are clear and safe to activate
- All protective guarding and interlocks must be operational

Initial isolation – 'Caution' tag

Machinery/equipment repair isolation – 'Danger' tags

Re activate machinery/equipment – removal of tags
## APPENDIX 2: A GUIDE TO ISOLATION DEVICES AND THEIR USE

<table>
<thead>
<tr>
<th>Isolation Device</th>
<th>Description of use</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Caution tag:</strong></td>
<td><strong>Yellow and black tag:</strong></td>
</tr>
</tbody>
</table>
| ![Caution tag] | • Used for out of service machinery/equipment.  
• May be removed by appropriate service people, personnel, or supervisor after consultation and once machinery/equipment is deemed safe for repair and testing purposes.  
• May be used by any person to indicate a fault in machinery.  
• Tagged machinery/equipment must not be used.  
• Hierarchy of control level - Administrative |
| **Danger tag:** | **Red white and black tag:** |
| ![Danger tag] | • Used to protect personnel and machinery/equipment.  
• May only be removed by the personnel who placed and signed the tag.  
• May be removed once machinery/equipment is deemed safe or the individual has completed their task.  
• Multiple tags must be used; one for each individual.  
• Tagged machinery/equipment must not be used.  
• Hierarchy of control level - Administrative |
| **Locking device:** | **Isolation pad locks:** |
| ![Locking device] | • Used to protect personnel and machinery/equipment in conjunction with tags.  
• May only be removed by the personnel who placed and signed the tag.  
• May be removed once machinery/equipment is deemed safe or the individual has completed their task.  
• Multiple locks must be used; one for each individual.  
• Hierarchy of control level - Engineering |
| **Isolation Clasps:** | **Isolation Clasps:** |
| ![Isolation Clasps] | • Used in conjunction with multiple locks and tags.  
• Each lock on a clasp represents each individual.  
• Hierarchy of control level - Engineering |
| **Physical restraint devices** | **Physical restraint devices** |
| ![Physical restraint devices] | • Used in conjunction with clasps locks and tags.  
• Use to reduce the likelihood of misuse of machinery/equipment or accidental energising.  
• Hierarchy of control level - Engineering |
### APPENDIX 3: GENERAL LOCKOUT GUIDELINES ACCORDING TO ENERGY FORMS AND SOURCES*

<table>
<thead>
<tr>
<th>ENERGY FORM</th>
<th>ENERGY SOURCE</th>
<th>GENERAL LOCKOUT GUIDELINE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity</td>
<td>• power transmission lines</td>
<td>• Shut off power at machine first (point of operation switch), and then at main disconnect switch for machine; lock and tag main disconnect switch (or remove fuses from box, and then lock and tag box).</td>
</tr>
<tr>
<td></td>
<td>• machine power cords</td>
<td>• Fully discharge all capacitative systems (e.g. cycle machine to drain power from capacitors) according to manufacturer’s instructions.</td>
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<tr>
<td></td>
<td>• motors</td>
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<tr>
<td></td>
<td>• solenoids</td>
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</tr>
<tr>
<td></td>
<td>• capacitors (stored electrical energy)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• generators</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• batteries</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• photovoltaic arrays</td>
<td></td>
</tr>
<tr>
<td>Fluid Pressure</td>
<td>• Hydraulic systems</td>
<td>• Shut off, lock (with chains, built-in lockout devices, or lockout attachments) and tag valves; bleed off fluid and blank lines as necessary.</td>
</tr>
<tr>
<td></td>
<td>- hydraulic presses</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- rams</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- cylinders</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- hammers</td>
<td></td>
</tr>
<tr>
<td>Air Pressure</td>
<td>• Pneumatic systems</td>
<td>• Shut off, lock (with chains, built-in lockout devices, or lockout attachments) and tag valves; bleed off excess air. If pressure cannot be relieved, block any possible movement of machinery.</td>
</tr>
<tr>
<td></td>
<td>- lines</td>
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<td></td>
<td>- pressure reservoirs</td>
<td></td>
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<tr>
<td></td>
<td>- accumulators</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- air surge tanks</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- rams</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- cylinders</td>
<td></td>
</tr>
<tr>
<td>Kinetic Energy</td>
<td>• blades</td>
<td>• Stop and block machine parts, and ensure that they do not recycle. Review entire cycle of mechanical motion; ensure that all motions are stopped.</td>
</tr>
<tr>
<td>(energy of a moving object or materials - moving object may be powered or coasting)</td>
<td>• flywheels</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• materials in supply lines of bins or silos</td>
<td>• Block material from moving into area of work and blank as required.</td>
</tr>
<tr>
<td>Potential Energy</td>
<td>• springs</td>
<td>• If possible, lower all suspended parts and loads to the lowest (rest) position, block parts that might move due to gravity; release or block stored spring energy.</td>
</tr>
<tr>
<td>(energy stored in an object with the potential for release due to its position)</td>
<td>• actuators</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• counterweights</td>
<td></td>
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<tr>
<td></td>
<td>• raised loads</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• top or movable part of a press or lifting device</td>
<td></td>
</tr>
<tr>
<td>Pressurized liquids and gases</td>
<td>• supply lines</td>
<td>• Shut off, lock (with chains, built-in lockout devices, or lockout attachments) and tag valves; bleed off excess liquids or gases; blank lines as necessary.</td>
</tr>
<tr>
<td>(including steam, chemicals)</td>
<td>• storage tanks and vessels</td>
<td></td>
</tr>
</tbody>
</table>

* adapted from “A Health and Safety Guideline for your Workplace,” Industrial Accident Prevention Association, 2000
APPENDIX 4: TAG Sample

LOCK/HOLD TAG

PLACE THIS TAG ON ALL LOCKS AND ISOLATING DEVICES

Location/Plant No.  Date/Time

Equipment

Reason for Tag

INSTALLER FILLS IN LINE 1, LINES 2 & 3 FOR SHIFT CHANGE ENDORSEMENT.

<table>
<thead>
<tr>
<th>NAME</th>
<th>ORGANIZATION</th>
<th>BADGE NO.</th>
<th>PHONE NO.</th>
<th>SIGNATURE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
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DATE REMOVED:

Name:

Date:

Signature:

DO NOT OPERATE EQUIPMENT OR REMOVE TAG

DANGER

برچسب فلز کناری

خطر

DO NOT OPERATE EQUIPMENT OR REMOVE TAG

برچسب فلز کناری

DANGER

دستگاه را روشن نکنید

برچسب را جایگا نکنید
SUGGESTIONS FOR THE POGC
LOCK OUT TAG OUT PROCEDURE

MANAGER, HSE Department
Pars Oil & Gas Company
Tehran I.R. Iran

Please consider the following suggestion(s) relative to the POGC Lock out Tag out procedure:

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(Signature)

(Date)

(Address)

Contact Telephone Number

Contact FAX Number