



# ***Don H. Mahaffey Drilling Co.***

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***ENERGY CONTROL  
(LOCKOUT/TAGOUT)***

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YOUR OSHA COMPLIANCE SOLUTION

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Questions? Call 1-800-734-3574



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## 1 INTRODUCTION

This program covers the servicing and maintenance of machines and equipment in which the unexpected energization or startup of the machines or equipment, or release of stored energy, could harm employees. It is the intent of Don H. Mahaffey Drilling Co. to equip employees with the knowledge and equipment necessary to ensure safe completion of their work as well as compliance with California Code of Regulations, Title 8, Section 3314.

## 2 PROGRAM ADMINISTRATOR

Don H. Mahaffey Drilling Co. has designated Ashley Mahaffey Tullius as the administrator for this program. Ashley Mahaffey Tullius will be responsible for:

- a. Ensuring that all employees receive appropriate lockout/tagout training;
- b. Maintaining records pertaining to this program;
- c. Evaluating the program; and
- d. Updating the written program, as needed.

## 3 ENERGY CONTROL AND LOCKOUT/TAGOUT, AN EXPLANATION OF

### 3.1 Hazardous Energy

Hazardous energy is any energy that can harm people. Energy sources include electrical, mechanical, hydraulic, pneumatic, chemical, thermal or other sources in machines and equipment. Failure to properly control hazardous energy can result in injuries such as electrocution, burns, crushing, cutting, lacerating, amputating and fracturing body parts. In some cases, exposure to hazardous energy may result in a fatality. It is important to note that more than one energy source may be utilized on some equipment.

### 3.2 Lockout/Tagout

Lockout/Tagout refers to specific practices and procedures to safeguard employees from the unexpected energization or startup of machinery and equipment, or the release of hazardous energy during service or maintenance activities.

3.2.1 Lockout consists of placing a disconnect switch, breaker, valve, spring, pneumatic assemble or other energy-isolating mechanism in the off or safe position. A device is placed over, around or through the energy-isolating mechanism to lock it in the off or safe position and only the person attaching it applies a removable lock to the apparatus.

3.2.2 Tagout is the process by which an energy-isolating device used for lockout is placed in the off or safe position and a written warning is attached to the device or placed in the area immediately adjacent to the device. The tag must identify the person who applied it and be durable and able to withstand the environment in which it is placed. The tag will be substantial so that it can be attached to a variety of locations and will not come off.

## **4 CLEANING, SERVICING AND ADJUSTING OPERATIONS**

- 4.1 Machinery or equipment capable of movement will be stopped and the power source deenergized or disengaged and, if necessary, the moveable parts will be mechanically blocked or locked out to prevent inadvertent movement or release of stored energy during cleaning, servicing and adjusting operations. Accident prevention signs or tags, or both, will be placed on the controls of the power source of the machinery or equipment.
- 4.2 If the machinery or equipment must be capable of movement during this period in order to perform the specific task, the hazard will be minimized by providing and requiring the use of extension tools or other methods or means to protect employees from injury due to such movement. Employees will be made familiar with the safe use and maintenance of such tools, methods or means by thorough training.

## **5 REPAIR WORK AND SETTING-UP OPERATIONS**

Prime movers, equipment or power-driven machines equipped with lockable controls or readily-adaptable to lockable controls will be locked out or positively sealed in the "off" position during repair work and setting-up operations. Machines, equipment or prime movers not equipped with lockable controls or readily-adaptable to lockable controls will be considered in compliance when positive means are taken, such as deenergizing or disconnecting the equipment from its source of power or other action which will effectively prevent the equipment, prime mover or machine from inadvertent movement or release of stored energy. In all cases, accident prevention signs or tags, or both, will be placed on the controls of the equipment, machines and prime movers during repair work and setting-up operations.

## **6 MATERIALS AND HARDWARE**

- 6.1 Accident prevention signs, tags, padlocks, seals or other similarly effective means which may be required will be provided for cleaning, servicing, adjusting, repair work or setting-up operations. Signs, tags, padlocks and seals will have means by which they can be readily secured to the controls.
- 6.2 Tagout device attachment means will be of a non-reusable type, attachable by hand, self-locking and non-releasable with a minimum unlocking strength of no less than 50 pounds.

## **7 REPETITIVE PROCESS MACHINES**

On repetitive process machines which require power or current continuance to maintain indexing and where repair, adjustment, testing or setting-up operations cannot be accomplished with the prime mover or hazardous energy source disconnected, such operations may be performed under the following conditions:

- a. The operating stations where the machine may be activated will be under the control of a qualified operator or craftsman at all times;

- b. All participants will be in clear view of the operator or in positive communication with each other;
- c. All participants will be beyond the reach of machine elements which may move rapidly and present a hazard to them;
- d. Where machine configuration or size requires that the operator leave their control station to install tools, and where machine elements exist which may move rapidly if activated, such elements will be separately locked out by positive means; and
- e. During repair procedures where mechanical components are being adjusted or replaced, the machine will be deenergized or disconnected from its power source.

## **8 HAZARDOUS ENERGY CONTROL PROCEDURES**

The established procedures for the application of energy control (the lockout or tagout procedures) will cover the elements and actions contained in this section.

### **8.1 Employee Notification**

All affected employees will be notified that servicing or maintenance is required on a machine or equipment and that the machine or equipment must be shut down and locked out to perform the servicing or maintenance.

### **8.2 Preparation for Shutdown**

Before an authorized or affected employee turns off a machine or equipment, the authorized employee will 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.

### **8.3 Machine or Equipment Shutdown**

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

### **8.4 Machine or Equipment Isolation**

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

### **8.5 Lockout or Tagout Device Application**

- 8.5.1 If an energy isolating device is not capable of being locked out, then a tagout system will be utilized.

- 8.5.2 If an energy isolating device is capable of being locked out, then a lockout system will be utilized unless it is demonstrated that a tagout system will provide full employee protection as set forth below:
- a. When a tagout device is used on an energy isolating device which is capable of being locked out, the tagout device will be attached at the same location that the lockout device would have been attached and it will be demonstrated that the tagout program will provide a level of safety equivalent to that obtained by using a lockout program.
  - b. In demonstrating that a level of safety is achieved in the tagout program which is equivalent to the level of safety obtained by using a lockout program, full compliance with all tagout-related provisions in this program will be demonstrated together with such additional elements as are necessary to provide the equivalent safety available from the use of a lockout device. Additional means to be considered as part of the demonstration of full employee protection will include the implementation of additional safety measures such as the removal of an isolating circuit element, blocking of a controlling switch, opening of an extra disconnecting device or the removal of a valve handle to reduce the likelihood of inadvertent energization.
- 8.5.3 Lockout or tagout devices will be affixed to each energy isolating device by authorized employees.
- 8.5.4 Lockout devices, where used, will be affixed in a manner that will hold the energy isolating devices in a “safe” or “off” position.
- 8.5.5 Tagout devices, where used, will 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.
- a. Where tagout devices are used with energy isolating devices designed with the capability of being locked, the tag attachment will be fastened at the same point at which the lock would have been attached.
  - b. Where a tag cannot be affixed directly to the energy isolating device, the tag will 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.

## **8.6 Stored Energy**

- 8.6.1 Following the application of lockout or tagout devices to energy isolating devices, all potentially hazardous stored or residual energy will be relieved, disconnected, restrained and otherwise rendered safe.
- 8.6.2 If there is a possibility of reaccumulation of stored energy to a hazardous level, verification of isolation will be continued until the servicing or maintenance is completed or until the possibility of such accumulation no longer exists.

## 9 RELEASE FROM LOCKOUT OR TAGOUT

### 9.1 Machine or Equipment

The work area will be inspected to ensure that nonessential items have been removed and to ensure that machine or equipment components are operationally intact.

### 9.2 Employees

9.2.1 The work area will be checked to ensure that all employees have been safely positioned or removed.

9.2.2 After lockout or tagout devices have been removed and before a machine or equipment is started, affected employees will be notified that the lockout or tagout device(s) have been removed.

### 9.3 Lockout or Tagout Devices Removal

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

*Exception: When the authorized employee who applied the lockout or tagout device is not available to remove it, that device may be removed under the direction of the immediate supervisor of the employee who applied the device, provided that the supervisor removing the lockout or tagout device has received appropriate training as detailed in Section 14. The supervisor will demonstrate that the specific procedure provides equivalent safety to the removal of the device by the authorized employee who applied it. The specific procedure will include at least the following elements:*

- a. *Verification by the employer that the authorized employee who applied the device is not at the facility;*
- b. *Making all reasonable efforts to contact the authorized employee to inform him/her that his/her lockout or tagout device has been removed; and*
- c. *Ensuring that the authorized employee has this knowledge before he/she resumes work at the facility.*

## 10 GROUP LOCKOUT/TAGOUT

10.1 When servicing and/or maintenance is performed by a crew, craft, department or other group, a procedure will be utilized which affords the employees a level of protection equivalent to that provided by the implementation of a personal lockout or tagout device.

10.2 Group lockout or tagout devices will be used in accordance with the procedures required by Section 10 including, but not necessarily limited to, the following specific requirements:

- a. Primary responsibility is vested by Don H. Mahaffey Drilling Co. for a set number of employees working under the protection of a group lockout or tagout device (such as an operations lock);

- b. Provision for the authorized employee to ascertain the exposure status of individual group members with regard to the lockout or tagout of the machine or equipment;
- c. When more than one crew, craft, department, etc. is involved, assignment of overall job-associated lockout or tagout control responsibility to an authorized employee designated to coordinate affected work forces and ensure continuity of protection; and
- d. Each authorized employee will affix a personal lockout or tagout device to the group lockout device, group lockbox or comparable mechanism when he or she begins work and will remove those devices when he or she stops working on the machine or equipment being serviced or maintained.

## **11 SHIFT OR PERSONNEL CHANGES**

Specific procedures will be utilized during shift or personnel changes to ensure the continuity of lockout or tagout protection, including provision for the orderly transfer of lockout or tagout device protection between off-going and oncoming employees, to minimize exposure to hazards from the unexpected energization or start-up of the machine or equipment or the release of stored energy.

## **12 PERIODIC INSPECTION**

### **12.1 Inspection Requirements**

Periodic inspections of the energy control procedure will be conducted at least annually to ensure that the procedure and the requirements of this standard are being followed.

12.1.1 The periodic inspection will be performed by an authorized employee other than the one(s) utilizing the energy control procedure being inspected.

12.1.2 Where lockout and/or tagout is used for hazardous energy control, the periodic inspection will include a review between the inspector and authorized employees of their responsibilities under the hazardous energy control procedure being inspected.

### **12.2 Inspection Certification**

Don H. Mahaffey Drilling Co. will certify that the periodic inspections have been performed. The Periodic Lockout/Tagout Inspection Report (Appendix 5) will identify the machine or equipment on which the energy control procedure was being utilized, the date of the inspection, the employees included in the inspection and the person performing the inspection.

## 13 OUTSIDE PERSONNEL

Whenever outside servicing personnel are to be engaged in activities covered by this program, the on-site employer's lockout/tagout procedures will be followed.

## 14 TRAINING

### 14.1 Training Topics

- 14.1.1 Authorized employees will be trained on hazardous energy control procedures and on the hazards related to performing activities required for cleaning, repairing, servicing, setting-up and adjusting prime movers, machinery and equipment.
- 14.1.2 Each affected employee will be instructed in the purpose and use of the energy control procedures.
- 14.1.3 All other employees whose work operations may be in an area where energy control procedures may be utilized will be instructed about the prohibition relating to attempts to restart or reenergize machines or equipment which are locked out or tagged out.

### 14.2 Retraining

- 14.2.1 Retraining will be provided for all authorized and affected employees whenever:
  - a. There is a change in their job assignments;
  - b. A change in machines, equipment or processes that present a new hazard; or
  - c. When there is a change in the energy control procedures.
- 14.2.2 Additional retraining will be conducted whenever a periodic inspection reveals, or whenever there is reason to believe, that there are deviations from, or inadequacies in, the employee's knowledge or use of the energy control procedures.
- 14.2.3 The retraining will reestablish employee proficiency and introduce new or revised control methods and procedures as necessary.

### 14.3 Training Records

Don H. Mahaffey Drilling Co. will certify that employee training has been accomplished and is being kept up to date. The training record will contain each employee's name and dates of training.

## APPENDIX 1 – DEFINITIONS

**Affected employee** – 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.

**Authorized employee** – 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.

**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 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.

*Note:* 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 service 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.

**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 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 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.

## APPENDIX 2 – LOCKOUT/TAGOUT PROCEDURES

Equipment Name: \_\_\_\_\_

Location: \_\_\_\_\_

Model #: \_\_\_\_\_ Serial #: \_\_\_\_\_

Authorized Employee: \_\_\_\_\_

### Lockout/Tagout Initiation:

Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

Time: \_\_\_\_\_

### Prior to Performing Maintenance and/or Service:

*(Authorized employee must initial as each step is completed)*

- \_\_\_\_ 1. Notify all affected employees of the impending lockout/tagout.
- \_\_\_\_ 2. Identify and locate all isolating devices to determine which switch(es), valve(s) or other energy-isolating devices will be required to be locked or tagged out.  
*Note: More than one energy source may be involved.*
- \_\_\_\_ 3. Shut down the machine to be locked or tagged out if it is still in operation using the normal stopping procedure.
- \_\_\_\_ 4. Isolate the machine from its energy source.
- \_\_\_\_ 5. Stored energy is released, dissipated or restrained.
- \_\_\_\_ 6. Apply lockout or tagout device(s) to all energy-isolating devices.
- \_\_\_\_ 7. Verify disconnection of energy sources by using normal controls to ensure that the equipment will not operate.
- \_\_\_\_ 8. Return all controls to the "Neutral" or "Off" position after testing.

### Prior to LOTO Removal:

*(Authorized employee must initial as each step is completed)*

- \_\_\_\_ 1. Ensure that all affected employees are clear of the machine or equipment.
- \_\_\_\_ 2. Remove all tools from the machine or equipment.
- \_\_\_\_ 3. Reinstall all machine or equipment guards.
- \_\_\_\_ 4. Remove all lockout and tagout devices.
- \_\_\_\_ 5. Operate the energy-isolating device to restore energy to the machine or equipment.

### Lockout/Tagout Released:

Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

Time: \_\_\_\_\_

Lockout/Tagout Completed: \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

*Signature of Authorized Employee*



**APPENDIX 4 – AUTHORIZED EMPLOYEE FORM**

Machine Name: \_\_\_\_\_

Machine Location: \_\_\_\_\_

**Person(s) trained and authorized to perform lockout/tagout procedures on this equipment:**

\_\_\_\_\_  
Name

\_\_\_\_\_  
Signature

**Lockout/Tagout Procedures:**

1. \_\_\_\_\_
2. \_\_\_\_\_
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47. \_\_\_\_\_

Notes/Comments:



## APPENDIX 5 – PERIODIC LOCKOUT/TAGOUT INSPECTION REPORT

Date of Inspection: \_\_\_\_/\_\_\_\_/\_\_\_\_

Machine or Equipment Name: \_\_\_\_\_

Machine or Equipment Location: \_\_\_\_\_

### Employees Included in the Inspection

\_\_\_\_\_  
Employee Name (please print)

### Inspection Questions

Any procedures marked NO must be explained in the Comments/Deficiencies section.

Question	Yes	No
Did you observe lockout/tagout being performed correctly?		
Does the employee understand his/her responsibilities for lockout/tagout?		
Does the procedure provide adequate protection?		
Are the control methods satisfactory?		
Is the energy identification procedure satisfactory?		
Is the lockout device procedure satisfactory?		
Is the energy release method satisfactory?		
Are the lockout steps satisfactory?		
Are changes to the procedure required?		
Is employee retraining required?		

Comments/Deficiencies:

\_\_\_\_\_  
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\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
Inspector Name (must be authorized employee)

\_\_\_\_\_  
Inspector Signature