Revised 1-17-25

Welcome To Basin Electric Leland Olds Station

Revised 1-17-25

Leland Olds Contractor Safety Packet

Table of Contents

Visit Contractor Access Site for more information

JOB SITE RULES

Basin Electric Power Cooperative
Leland Olds Station

The following are LOS site rules that have been established by the Owner. In the event that you are observed by Management violating any of these rules, your Supervisor or Site Contract Coordinator will be notified.

These rules will be reviewed annually or whenever a revision occurs. LOS Management will perform the review.

1. Supervisors and site contract coordinators will be responsible for ensuring the compliance of all LOS site safety rules with employees/contractors. Contractor workers and Management will also be responsible for LOS site safety rule compliance.
2. All Basin Electric and Contractor employees will be required to have ID badge identification on their person or sign in at reception desk in main Admin lobby.
3. Alcoholic beverages and illegal drugs shall not be possessed or consumed at the plant site or surrounding property owned or controlled by Basin Electric Power Cooperative.
4. Fighting and gambling are prohibited.
5. Firearms, unauthorized explosives, or fireworks shall not be carried onto the job site.
6. All appropriate PPE must be worn at all times when designated in any area of the site and/or during a scheduled workday/shift
7. Equipment, tools, and material shall not be removed from the plant site unless specifically authorized, in writing, by the responsible authority of Management.
8. Vehicles, lunch pails, etc., are subject to search and inspection by the site owner when entering or leaving the job site.
9. Vehicles will be parked in specified parking areas only. Performing a 360 walk-around before entering a vehicle should be conducted.
10. Posted speed limits shall be followed everywhere on the LOS site. **10 MPH** in parking lot areas/**15 to 20 MPH** in other areas where identified. **Watch for pedestrians at ALL times.**
11. Malicious destruction of property shall be grounds for barring an employee from the job site.
12. There is heavy vehicle traffic on the plant site. Heavy equipment have the right-of-way.
13. Follow the LOS Emergency Action Procedures (See procedures in Altien or contractor packet).
14. Follow the LOS Clearance (LOTO) Procedures when applicable (See procedure in Altien or contractor packet).

15. Follow the LOS Hot Work Permit Procedures when applicable (See procedures in Altien or contractor packet).

16. There are confined spaces at Leland Olds Station. Do not enter without coordinating with the LOS Shift Supervisor and signing on confined space permit. Follow the LOS Confined Space Entry Policy when applicable (See procedures in Altien or Contractor Packet).
17. Follow the LOS Dropped Objects Prevention and/or Barricade Tape Procedures when applicable (See procedure in Altien). Consult your supervisor, site contract coordinator, or shift supervisor for questions.
18. Carbon Monoxide may be present in the lower levels of the rail unloading facility and in the coal system lowering well. Air monitoring needs to take place when entering this area. Consult C & Y Supervisor/Assistant Supervisor or Shift Supervisor before entering.
19. There is asbestos-containing material on the Leland Olds Station plant site. Contractors will be informed if they will be working in the vicinity of asbestos by their site contract coordinator.
20. There is lead-based paint on the Leland Olds Station plant site. Check with your site contract coordinator before paint removal activities.
21. All incidents must be reported to your immediate supervisor within 24 hrs. If the immediate supervisor is not available, notify their designee, shift supervisor, site contract coordinator, or safety coordinator. A report must be completed by both supervisor and employee.
22. Contractors are responsible for providing their own safety supplies/equipment and follow LOS emergency action procedures for their employees.
23. The taking of pictures/video of Basin Electric/LOS property or equipment is prohibited with proper clearance from site owner.
24. Smoking only in permitted areas on the site. No smoking/vaping inside any LOS vehicle or building.

Origination Date:	Procedure No.:	Revision No.:
05/06/2022	LOS-SAF-18	2
Affected Area(s): All	**Originator:** Safety Coordinator	
	Final Approval/Date: Plant Manager	
Procedure Description: **HAZARD COMMUNICATION**		

I. PURPOSE AND SCOPE

A. To establish a Hazard Communication (HAZCOM) Program that addresses the following requirements for the plant site:

1. Purchasing and inventory of all chemicals used at Leland Olds Station, and methods for reducing the number of chemicals on the Leland Olds Station plant site.
2. Labeling of chemicals and containers used at Leland Olds Station.
3. Information regarding the training for all personnel on Safety Data Sheet(s)(SDSs), pictograms, chemical handling and storage.

B. Acquisition and maintenance of Safety Data Sheet(s) of chemical/hazardous materials at Leland Olds Station.

C. To ensure personnel have access to information concerning the safe storage, handling, use and disposal of chemicals/hazardous materials they work with in order to minimize exposure risk.

D. This procedure will be followed by employees, contractors, vendors, and visitors on the plant site.

LOS Contractor Field Coordinators are responsible for:

1. Ensuring that contractors provide a list of hazardous chemicals/materials and corresponding SDS(s) to the Safety Coordinator for products they bring on site.
2. Ensuring that contractors are provided with appropriate information regarding chemicals/hazardous materials they may be exposed to, while on site.
3. Ensuring that contractors are aware of their responsibilities to comply with provisions of this procedure regarding usage and exposure to chemical/hazardous materials.
4. Providing copies of facility Safety Data Sheets to contractor supervision upon request.

Personnel are responsible for:

1. Understanding the hazards associated with the chemicals/hazardous materials in their immediate work area and the means of detection, elimination, or reducing potential exposures.
2. Using chemicals/hazardous materials in a safe manner in accordance with label instructions, SDS directions, and directions given by supervision.
3. Ensuring the integrity of labels on containers and vessels in their respective work areas. Notifying their immediate supervisor when containers are not properly identified or labeled with hazard warnings and material identification information.
4. Reporting to their immediate supervisor any abnormal conditions, sensations, or discomforts that appear to be related to the workplace environment.
5. Keeping contaminated equipment or materials out of eating areas and maintaining eating areas clean and free from contamination.

Contractor Personnel:

1. Contractors at LOS are responsible for training and protecting their employees from all chemicals/hazardous materials known to be present within assigned work areas, including products they bring on site. To ensure chemical/hazardous material hazards are properly addressed, contractors shall provide a list of hazardous chemicals/materials and corresponding SDS(s) to the LOS Safety Coordinator for products they bring on site.
2. A pre-job meeting shall be held between a designated contractor representative and the LOS Contract Field Coordinator to exchange information on chemical/hazardous materials used or stored in areas where the contractor is assigned to work. At this time, appropriate SDS(s) will be exchanged. Documentation of materials reviewed will be submitted to the LOS Safety Coordinator.
3. Contractors will ensure their employees working at LOS receive training regarding potential exposures to chemical/hazardous materials, to include hazards of the products, proper handling and disposal requirements.
4. LOS Contract Field Coordinators shall conduct periodic inspections of the contractor's work area to ensure that work procedures utilizing chemicals/hazardous materials are being followed and new products are not being introduced without proper notification. A post-job inspection should be conducted to ensure that any unused materials and empty containers/scrap have been properly removed and disposed of by the contractor.

Visitors:

1. An appropriate LOS employee must escort all visitors and tour groups. LOS employees serving as escorts are responsible for the well-being and safety of the visitors and compliance with all pertinent plant procedures. Escorts for visitors will provide appropriate hazard warning information and protective measures visitors may need during their visit to facility locations.

NOTIFICATION OF HAZARDOUS SUBSTANCES

Basin Electric Power Cooperative
Leland Olds Station

HAZARDOUS CHEMICALS PROVIDED BY LOS TO THE CONTRACTOR

DATE:

CONTRACTOR:

LOCATION:

CONTRACT NO.:

Under requirements of the Hazard Communication Standard, also known as the Right to Know Act, you are hereby informed of the hazardous chemicals provided by Leland Olds Station and in the workplace specified in the referenced contract.

Hazardous Chemical	Workplace Location

Under provisions of the Act, you are required to implement an employee information program designed to inform your employees about the hazardous chemicals to which they may be exposed. The contractor hereby acknowledges receipt of information regarding the hazardous chemicals provided by Leland Olds Station and the requirement to conform to the provisions of the law and regulations.

Contractor _____ Signature _____ Date _____

CONTRACTOR NOTIFICATION OF HAZARDOUS SUBSTANCES

Basin Electric Power Cooperative
Leland Olds Station

EMERGENCY ACTION PROCEDURES

Contractor Instructions

1.0 If you suspect an emergency condition exists on the Leland Olds Station plant site, report it as quickly as possible to the LOS Shift Supervisor and/or Safety Coordinator.

2.0 The Leland Olds Station General Alert and Alarm Systems uses a two alert and alarm tones that will be activated over the paging phone system.

2.1 Gai Tronics **"Siren"** General Plant Emergency

2.2 Gai Tronics **"Yelp"** First Response Team Activation

2.3 Gai Tronics **"Tone"** Severe Weather Emergency

2.4 Once the Alert System and Alarms have been activated, Channel 1 on the Plant Radios and the Gai Tronics are to be used for Emergency Communication, Only

2.5 Instructions will be communicated through the Gai Tronics and radio systems.

2.6 The Alert System will be sounded for one of three reasons:

2.6.1 Alarm Test. An alarm test will be preceded and followed by the phrase, "This is a test," repeated twice before and twice after the alarm is sounded. No response is required for an alarm test. Advance notice will be given for alarm tests.

2.6.2 An Emergency Action Procedure drill. There will may be no advance notice of drills. Response as if this were an actual emergency is required. You will be informed of the drill after responding.

2.6.3 An Actual Emergency. The alarm will be sounded as directed by the shift supervisor. You will be informed about the nature of the emergency after responding.

3.0 **Emergency Procedures:**

3.1 Contractor foremen, general foremen, and superintendents will account for their employees in an emergency.

3.1.1 **Inside Plant Work:**

3.1.1.1 Proceed to the ground floor by the safest and quickest route.
3.1.1.2 Gather at the area designated during the contractor in-briefing.
3.1.1.3 Report to your LOS contact person as to accountability status and to receive additional instructions.

3.1.2 **Outside Plant Work:**

3.1.2.1 Proceed to the area designated during the contractor in-briefing by the safest and quickest route for accountability.

3.1.2.2 Report to your LOS contact person as to accountability status and to receive additional instructions.

3.2 If the emergency is such that either an area or the entire plant must be evacuated, the Shift Supervisor, Plant Manager, and/or Safety Coordinator will determine which designated Outdoor Assembly Area(s) to evacuate to. The order to evacuate will be given over the paging phone, but if this system fails, evacuate upon three separate soundings of the alarm. They are as follows:

3.2.1 **Area 1: Primary** area is the area west of the upper parking lot west of the plant.

3.2.2 **Area 2: Alternate** area is the area west of the 235 kV switchyard.

3.2.3 **Area 3: Coal and Yard** area is the area west of the shop near the contractor parking.

3.2.4 **Area 4: East of Gypsum Loadout Building** open area just across the road to the east of the blue Gypsum loadout building

3.2.5 The evacuation order will be: “Evacuate the Plant – Primary” or “Evacuate the Plant – Alternate”. If only the area of the emergency is to be evacuated, the order will be: “Evacuate the Area – Primary” or “Evacuate the Area – Alternate”.

3.2.6 Do not use elevators or manlift in an emergency. Should there be a designated elevator operator, he will bring the elevator to the ground floor and lock it there.

3.2.7 Do not use plant communications equipment except in conjunction with emergency procedures.

**Do not use elevators or manlift in an emergency. Should there be a designated elevator operator, he will bring the elevator to the ground floor and lock it there.

**Do not use plant communications equipment except in conjunction with emergency procedures.

PROCEDURES & PRACTICES
Leland Olds Division – Leland Olds Station

BELT MANLIFT PROCEDURES

I. INTRODUCTION

A. 29CFR1910.48 (OSHA) and ASME Specification A90.1-2003 require training in the use, maintenance, and inspection of belt manlifts. The purpose of this procedure is to provide procedures for use within Leland Olds Station.

B. The Safety Coordinator is responsible for keeping this procedure current.

II. GENERAL REQUIREMENTS

A. Manlift Safety

1. Only authorized personnel, trained in their use, will be permitted to use the LOS manlifts.
2. Unsafe conditions on manlifts must be reported immediately, and the manlift is to be taken out of service until the condition is corrected.
3. When riding the manlifts:
   a. Stand squarely on the top surface of the step
   b. Face the belt
   c. Grasp the handhold securely with both hands
   d. Horseplay of any kind is prohibited
   e. Only one rider per step is allowed
4. No freight, packaged goods, pipe, lumber, or materials of any kind will be carried or transported on the manlifts.
5. No tools shall be carried on the manlifts except those that fit entirely within a pocket, tool pouch, or holster designed specifically for small hand tools and attached to an employee's belt or body harness (the kind from which no tools are able to protrude).
6. Before starting or restarting a manlift, it is necessary to warn all riders and others in the vicinity. The start-up alarm will do this.

B. Training

1. Lecture:
   a. Manlift construction will be discussed.
   b. Operation of the start/stop control rope and safety stops.
   c. Resetting the manlift.
   d. Manlift safety.
2. Demonstration (requires a trainer and an assistant):
   a. Start at the lowest step and review procedures.
      1) Make sure everyone is clear.
      2) Wait for the handhold to appear at waist level.
      3) Step on the next step as it levels with the landing.
      4) Face the belt and grasp the handhold with both hands.
      5) Place both feet squarely on the step.
   b. Stop the manlift almost immediately by pulling the rope.
      1) Explain operation of the start/stop control rope.
      2) Ride to the first landing and return to the trainees on the down belt.
      3) Explain the step taken in dismounting.
      4) Answer any questions.

3. Practice:
   a. Station a training assistant at the first landing above the lowest landing.
   b. Standing alongside of the step at the lowest level, encourage each trainee to mount the manlift for a one-floor ride. Be ready to pull the rope in case of a misstep.
   c. The assistant watches each trainee step off the manlift. Be ready to pull the start/stop rope, if necessary.
   d. Watch each trainee mount the manlift.
   e. The instructor goes to the first level and the assistant goes to the lowest level.
   f. Explain the technique of watching for the correct handhold to come level with the chest and simultaneously grasping it while stepping onto the descending step.
   g. Have each trainee ride down one floor.
4. If, at any time, a trainee expresses fear of riding a manlift, he/she should not use the manlift, and training for that person will be stopped.
5. Starting and restarting procedures will be learned before using the manlift.
   a. First, reset all tripped safety switches.
   b. Pull the rope on the side of the manlift–an easy pull is all that is necessary.
   c. Press the reset switch on the turbine floor level of the manlift.
   d. Pull the rope the opposite direction of the first pull.
   e. The horn will sound indicating the manlift is about to start.

C. Inspections
1. Weekly – The safety stops and rope control will be checked by the mechanics. The checklist in Appendix A will be used to record this inspection. A preventative maintenance work order will be issued for this inspection.
2. Every 30 days – The checklist in Appendix A will be used every 30 days to inspect the manlift. A preventative maintenance work order will be issued for the mechanics to do this.

III. CONTRACTORS

A. Contractors will receive a copy of these procedures in their in-briefing package.

B. Contractors will follow the procedures.

IV. RESPONSIBILITIES

A. LOS Employees
1. Use the manlift per the procedures and obey the safety rules.
2. Report any unsafe conditions observed on the manlift.

B. Safety Coordinator
1. Keep the procedures current with the latest regulations.
2. Train all new employees in the procedures.

C. Contract Coordinators
1. Cover these procedures with contractors at the initial briefing and annually thereafter.

LELAND OLDS STATION

LELAND OLDS STATION
SAFETY PROCEDURE

Origination Date:	Procedure No.:	Revision No.:
01/27/2023	LOS-SAF-36	R2 6-19-23
Affected Area(s): LOS Plant Site	**Originator:** Safety Coordinator	
	Final Approval/Date: Plant Manager	
Procedure Description: **Alimak Elevator Operation**		

1.0 PURPOSE/SCOPE

1.1 To provide safe operation for all employees, contractors, vendors and visitors by reducing the probability of injuries from hazards that are not controllable at the source, while operating the Alimak Elevators at Leland Olds Station (LOS).

2.0 DEFINITION OF TERMS

2.1 On-Site Coordinator: LOS on-site employee that interfaces with contractors.

2.2 Qualified Employee: Any individual that has been trained on, authorized and engaged in the operation, and understands the Alimak Elevator Operation Program requirements.

2.3 Facility Management: the Plant Manager and Superintendents the "Facility Management" of this program and administers manning the installation, maintenance and the operations of the program. The Plant Manager may designate this authority if necessary.

3.6 **On-Site Coordinators** are responsible for:

3.6.1 Covering these procedures with contractors at the initial pre-job briefing and annually thereafter.

3.6.2 Following up with contractors if an issue is brought forth.

3.6.3 Obtaining proper training records for contract employees prior to the use of LOS elevators.

3.7 **Contactors** are responsible for:

3.7.1 Providing training of this procedure per contractor orientation checklist (LOS 0017) for Alimak Elevators prior to use.

3.7.2 Following all provisions in the contract.

PROCEDURES/GUIDELINES:

4.1 ***Guidelines***:

4.1.1 **If you are unsure on the operation, get assistance before operating.**

4.1.2 **In the event of a power failure, always have some form of two-way communication with other individuals when using Alimak Elevators.**

4.1.3 Shift Supervisor (701-745-7248) for assistance in case you cannot return to the landing.

4.1.4 **Do not use elevator if wind speed exceeds 33 mph**

4.1.5 **Do Not use if dense fog is obstructing view of power cord**

4.1.6 Elevator safety devices shall not be overridden or made inoperable for any reason.

4.1.7 **Before use, view the rails to ensure there is no ice buildup.**

4.1.8 **Before use, view rails to ensure the power cable hasn't blown out of cable guides, or for inside elevators, that the cable is in place. Do not operate if unsure.**

4.1.9 **Return elevator to ground level when not in use.**

4.2 In Case Of Power Failure or Malfunction for Alimak Elevators

4.2.1 **Review Manufacturer's In case of Power Failure instruction plate in elevator as some are different.**

4.2.2 Contact Shift Supervisor. Ensure you always have **some form of two-way communication with you when operating Alimak.**

4.2.3 When using brake during a power failure/malfunction, stop every 15-20 ft. and allow brake to cool down for 3-4 minutes. Then continue to next landing.

4.3 Operating Procedures

4.3.1 Entering the Elevator

- **Review Manufacturer's instructions or contact immediate supervisor if unsure on the operation.**
- Visually inspect elevator prior to use
- Make sure maximum load has not been exceeded
- Make sure outside wind speeds are not beyond 33 MPH. Contact Shift Supervisor for questions.
- Open the outer doors.
- Open the metal slide door.
- Step into the elevator.
- Close the outer doors.

- Close the metal slide door.
- Make sure top hatch remain closed
- Ensure you have an emergency exit plan
- Ensure that the doors are fully closed or the elevator will not move.

4.3.2 Going Up or Down in the Elevator

- Once in the elevator with the doors closed, review the control panel.
- If you are going to a designated landing, press corresponding button.
- Exit the elevator as noted below.

4.3.3 Exiting the Elevator

- Once you have reached your designated landing, wait for lock sensor to release, then open the inside metal sliding door.
-
- Open the outer doors.
- Exit the Elevator.
- Close the inner metal slide door.
- Close the outer doors.
- **Always remember to close the doors when exiting the elevator or it cannot be called to another landing.**

4.3.4 Elevator Malfunctions

1) **Notify Shift Supervisor Immediately**
2) **Lock out elevator per site Clearance/Tagging Procedure**
    a) **If landings can be accessed from different levels, ensure each landing for elevator has "Do Not Operate" tag installed**
3) **Write Work Request for malfunction**
4) **Issue plant wide email conveying malfunction. LOS Site Contacts need to forward email to contractor onsite.**

LELAND OLDS STATION SAFETY PROCEDURE

Origination Date:	Procedure No.:	Revision No.:
2-9-2024	LOS-SAF-35	R3
Affected Area(s): LOS Plant Site	**Originator:** Safety Coordinator	
	Final Approval/Date: Plant Manager	
Procedure Description:	**Control of Hazardous Energy (LOTO/Clearance) Energy Verification Program**	

PURPOSE / SCOPE

A. This program establishes the minimum performance requirements for hazardous energy control. The program outlines principles of a uniform operations-controlled Lockout/Tagout protective system that will provide protection for personnel when the unexpected energizing/start-up of machinery or equipment, or the release of stored energy from machinery or equipment, could cause injury to employees or damage to equipment, with minimum interruption of service and minimum delay to necessary work.

B. The program shall consist of energy control procedures, employee training and periodic inspections to ensure that before any employee performs any servicing or maintenance on a machine or equipment where the unexpected energizing, start-up or release of stored energy could occur and cause injury, the machine or equipment shall be isolated from the energy source and rendered in-operative. [1910.147 (c) (1)].

C. Additional safeguards necessary to complete the work safely may be added by supervision at any time. The Leland Olds Station (LOS) Clearance Program uses locks if the device can be locked out and tags to secure each point of protection against accidental operation.

D. This program deals with personnel protection and will be reviewed with all plant personnel at least annually. This program will be reviewed and/or revised annually at a minimum.

II. DEFINITIONS OF TERMS

A. **Affected Employee**: A person whose job requires them to work in proximity to a machine or equipment on which servicing, or maintenance is being performed under lock out or tag out, or whose job requires them to work in an area in which such servicing or maintenance is being performed.

B. **Authorized Employee:** A person who requests that machines or equipment be locked and/or tagged out to perform servicing or maintenance on that machine or equipment. To become an Authorized Employee, the person must have completed training on the Clearance Program and be familiar with the work to be done and the danger involved. An Affected Employee becomes an Authorized Employee when that employee's duties include performing servicing or maintenance covered in this program.

C. **Black Lock:** A lock used by the Operating Authority for the protection of personnel. It is to be placed on the assigned lock box(s) after equipment or systems have been isolated.

D. **Blue Lock**: BEPC Authorized Employee personal lock, issued by Operating Authority and used primarily for the protection of BEPC personnel. The blue lock will be placed on lock boxes associated with the piece of equipment that has been locked and tagged out. A blue lock can also be used on equipment as part of a single point isolation.

E. **Boundaries**: Includes all isolation points within a Clearance.

F. **Capable of Being Locked out:** An energy isolating device can be locked out if it has a hasp or other means of attachment to which, through which, a lock can be affixed, or a locking mechanism built into it. Other energy isolating devices can be 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.

G. **Clearance**: Authorization to perform specified work or permission to enter a restricted area. It is a Permit for Work that involves Lockout/Tagout.

H. **Clearance ID Badge:** An identification badge with the Authorized Employee's picture, name and employee number, or contractor name that is used in conjunction with a personal lock.

I. **Clearance Record**: The Clearance Record is the documenting form and binding contract for the protection transaction.

J. **Competent Person:** A person to be contacted when an employee does not understand any point of the company's program or procedure(s). The Supervisory Authority, Operating Authority, Safety Coordinator and Qualified Operators are competent persons.

K. **Contractor:** A person or company that undertakes a contract to provide materials or labor to perform a service or do a job. For a contractor to receive a clearance they must be classified as a "Class A" contractor at LOS and their designated authorized employee must have documented proof of understanding the LOS LOTO program.

L. **Contractor Satellite Lock Box:** Lock box that the contractor foremen or representative places their key into. The contract employees working under his/her protection will place their personal lock on the lock box before starting the work. The lock box may be kept at the worksite/break area. All foremen or representatives are responsible for said lock box/keys while in use.

M. **Danger "Do Not Operate" Clearance Tag**: (white tag with a red border): Standard printed tags which are attached to energy sources to denote that the device shall not be operated until the Primary Clearance Holder in charge of the work has reported that it is clear and has given specific authorization to operate the device. **Refer to appendix.**

1. **IT MUST BE UNDERSTOOD** that the individual who is authorized to approve operation of equipment under the protection of the "**RESTRICTED USE**" has complete responsibility when doing so and will be held accountable for consequences.

N. **Energized**: Connected to an energy source device or containing residual or stored energy.

O. **Energy-Isolating Device**: A device that 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.

P. **Energy Isolation by Tagout Only**: A prominent warning, 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 energized or operated until the tagout device is removed.

Q. **Energy Isolation Verification**: Before any actual maintenance or servicing work is started on the machinery or equipment, the operations authorized employee will verify that de-energization and isolation has been effectively accomplished by checking, verifying, re-checking, and documenting in front of maintenance or contractor groups.

R. **Equipment/Area Inspection:** Inspection of a work area to ensure that all personnel and nonessential items (e.g., tools, spare parts) are removed to a safe location, and that all the machine or equipment components are operationally intact.

S. **Exclusive Control:** Work on cord and plug connected electric equipment for which exposure to the hazards of unexpected energization or startup of the equipment is controlled by the unplugging of equipment from the energy source and by the plug being under the exclusive control of the employee performing the servicing or maintenance. This also applies to Green Restricted Use Clearance being under the exclusive control of the employee performing servicing.

T. **Function Test**: An energization process performed to determine equipment functionality.

U. **Green Restricted Use Clearances:** shall be identified by using a Green Restricted Use tag when equipment such as air heaters, manlifts, overhead doors, cranes, traveling screens, etc. must be energized during maintenance activities. Also, when troubleshooting an electrical/electronic circuit, adjusting limit switches on a damper, cleaning of the coal system, or static check of the precipitator, etc.

V. **Hazardous Energy**: Any electrical, mechanical, hydraulic, pneumatic, chemical, nuclear (radiation), steam/thermal, gravity, or other energy that could cause injury to personnel.

W. **Lockout**: The placement of a lockout device on an energy-isolating device or removing/disconnecting the power source on equipment, in accordance with this established procedure, ensuring that the energy-isolating device and the equipment being controlled cannot be operated until the lockout device is removed.

X. **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.

Y. **Lock Box**: A box used in the lockout/tagout process. The lock box will contain locks that are keyed alike. Each box will be numbered, and the locks will have the same number as the box.

Z. **Locking Center**: The Shift Supervisor's office where lock boxes are stored on shelves.

AA. **Normal Production Operations**: The utilization of a machine or equipment to perform its intended production function.

BB. **Operating Authority**: The Shift Supervisory Staff in the Operation Section is the "Operating Authority" in the power plant and the administrator of this program.

CC. **Orange Lock:** Contractor's authorized employee lock, issued by Operating Authority, used primarily for the protection of personnel. The orange lock will be placed on lock box associated with the piece of equipment/system that has been locked and tagged out.

DD. **Point of Protection:** An energy isolation point, grounding device, block, blank, restraint, blind, or other safeguard designed to withstand, with appropriate safety factor, all forces to which they will be subjected. Personal grounds are in addition to grounding devices and are never used as a replacement for a grounding device on the same wire run. Personal grounds are not tagged.

EE. **Primary Clearance Holder:** An authorized employee who signs on the Green Restricted Use Clearance Tag and is responsible for the work being performed, and the safety of the employees within their Work Group who are working under the protection of the Red Tag Clearance. To become a primary clearance holder, one must have completed training on the clearance program, be familiar with the work to be done and the danger involved, and not within their six-month probationary period. The Primary Clearance Holder designation is used only on a Green Restricted Tag Clearance.

- **The Primary Clearance Holder** is Responsible for following the Clearance Program and Procedures and for representing the work group when signing on to a clearance.

FF. **Qualified Operator**: A Qualified Operator is an individual that has been trained on the equipment or system(s) needing a clearance and authorized by the Operating Authority to isolate equipment or system(s) by installing and removing locks and tags.

GG. **Red Lock**: Used primarily for the protection of personnel. The red lock will be put on energy sources associated with the piece of equipment/systems that has been locked and tagged out.

HH. **Site Contacts**: Basin Electric Power Cooperative (BEPC) on-site employee that directs contractors.

II. **Stored Energy Source**: Any device that is capable of holding energy after equipment is shut down. This includes, but is not limited to, capacitors, tanks, pipes, springs, and flywheels.

JJ. **Supervisory Authority**: The Plant Manager or designee. This person may delegate this authority if necessary.

KK. **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 energized or operated until the tagout device is removed. The Do Not Operate tag is symbolic of a lock and must be treated as such.

LL. **Work Group:** This is only used for contractors.

8. **Site Contacts are responsible for**:
   a. Coordinating the LOS Clearance program to any and all contractors within their control and ensuring they have been properly trained and understand the program requirements.
9. **Contractors are responsible for**:
   a. Designating and training Authorized Employees.
   b. Accounting for all personnel working under clearance either through crew verification or similar roster.
   c. Ensuring the safety of their employees.
   d. Verifying placement of "Danger Do Not Operate" Tags and Locks.
   e. Verifying all work is completed, Example: guards/breakers are in place, materials and affected employees are removed.
   f. Verifying that the equipment has been isolated.
   g. Ensuring the area is clean and returned to normal working conditions after the job is completed.

IV. Procedure

A. Preparation

1. The shutdown of equipment, machinery, and/or systems required for servicing/maintenance will be conducted by operations and/or other departments in accordance with LOS procedures.
   a. The Operating Authority will identify, and list on the clearance sheet, all energy sources that must be isolated before that piece of equipment can be serviced.
   b. If changing boundaries such as additions, deletions, and changes to clearance isolation points, the clearance list must be approved by the Operating Authority or designee.
      1) Locations where tubing, unions, pipes, etc. have been disconnected as part of isolation shall be included on the clearance list.

         Note: Disconnected piping shall be positioned so that it does not remain in alignment or close proximity to hazards created by Affected Employees.

B. Placement of Locks, Tags, Isolation Devices, & Verification:

1. A request is made for a clearance to perform work to the Operating Authority by an Authorized Employee.
2. A clearance isolation list is developed, including the assigning a lockbox(s):
   a. Boundaries and isolation points are identified by the requestor and Operating authority.
   b. The Operating Authority will initial the "issued-by" section of the clearance. It is up to the **Authorized Employee** and the **Operating Authority** to determine the placement of the LOTO devices. The final decision for clearance is the responsibility of the Operating Authority.

3. A Qualified Operator will receive the Isolation List from the Operating authority.
4. Then:
    a. Locks and isolation devices will be determined by Qualified operator and Operating authority
    b. Verify with Control Room Operator equipment/system has been shut down
    c. Isolate the equipment and/or system per isolation by following the position section on the Isolation List
    d. Place the tags, isolation devices, and locks on each component necessary
    e. If a lock cannot be placed on isolation point, hang tag with cable tie, notify Operating authority and make note on isolation list and tag.
    f. The Qualified Operator and Operating Authority will ensure that all energy has been released.
    g. Once step F is completed, the Qualified operator will initial the "Placed By" section on the Isolation List.
5. All sources, including drains, will be secured in a manner to prevent the release of energy.
6. Each "Danger Do Not Operate" Tag will contain the following information:
    a. Date placed on equipment.
    b. Position of the equipment isolation or being in a Do Not Operate status.
    c. Location of tag, e.g., equipment or valve number, description of the device.

    Note: Each isolation point must be tagged.
7. At this point, equipment is de-energized, isolated and lock(s)/tag(s)/Isolation devices are placed and verified by the Qualified Operator.

    Note: For the DCS/PLC, a tag will be placed at the corresponding monitor in the control room and verification of the yellow box with a red letter "T" must be displayed.
8. Once the Operating Authority receives the isolation list and it is properly completed
    a. Operating Authority issues the Clearance.
    b. Operating Authority will lock the box using a designated black lock.
    c. The key to that lock will then be placed in the Operating Authority's lockable cabinet.
9. Prior to starting work, **Authorized Employee**(s) who sign onto a clearance will:
    a. Be notified by Operating Authority that clearance is issued.
    b. Receive a copy of isolation list.
    c. Walk down isolations with list, all while:
        1) **Checking** that personnel are not in or on the machinery equipment, or in the surrounding area in a position to possibly be injured by the activation of the energy source.

            Note: For zero energy verification, the DCS/PLC will have a tag placed at the corresponding monitor in the control room and verification of the yellow box with a red letter "T" must be displayed.
        2) **Rechecking** all energy sources and lockouts are in place and ensuring equipment cannot be started. No work may be performed on the equipment until a successful de-energization has been verified.

d. Once boundaries have been verified and each "Do Not Operate" tag is initialed by authorized employee(s) , they shall initial the **"verified"** section of the isolation sheet. Authorized employee may also sign in the open area of sheet.

e. Hand written "Verified" section may be required on some clearance sheets

f. **Each authorized employee signing on a clearance** shall place a personal clearance ID badge with a blue lock on corresponding lock box and will be responsible for said key throughout the duration of the clearance.

g. Authorized Employee(s) performing work on equipment/system(s) will sign on clearance

h. Authorized Employee(s) will then go perform service on equipment/system(s)

Note: A signature/initial demonstrates the authorized employee has walked down and acknowledges the job has been isolated and is safe to work.

10. ***Contractors*** shall follow Section IV found above in addition to the following:

1) A contractor foreman/representative will verify and legibly initial the "Do Not Operate" tags and position of isolated equipment/system(s). They may be escorted by an LOS employee if needed.

2) Contractor foremen(s)/representative will attach an orange lock with a red clearance ID badge to the corresponding LOS lock box.

Note: If a contractor satellite lockbox is used, the contractor foremen/representative will place an orange lock onto the original LOS lock box. They will remove the orange lock key and place it into the contractor satellite lockbox.

All contract employees working under the contractor satellite lock box must apply a lock to their satellite box (Contractors responsible for their personal locks).

3) The contractor foremen(s)/representative will sign on to the clearance sheet and maintain a satellite lock box for their authorized employees working under that clearance.

4) When the job is complete, the Contractor will notify Operating Authority.

5) Contractor foremen(s)/representative will verify all employees on satellite lockbox are accounted for and then sign off on the clearance.

6) Remove their orange lock and ID Badge(s) from LOS lock box.

Note: A signature/initial demonstrates the authorized employee has walked down and acknowledges the job has been isolated and is safe to work.

C. **Releasing Protection**:

1. Upon completion of the job, the Authorized Employees will notify the Operating Authority of the status of the equipment and if it is available for service.
2. Prior to the removal of "Danger Do Not Operate" tags and locks, the Operating Authority:
   a) Will obtain confirmation from all authorized employees that the job has been completed
   b) Will check to verify that all individuals have signed off the clearance form
   c) All personal locks with clearance ID badges have been removed from lock box.

II. Even if contact is made with absent authorized employee, this form must still be completed.

III. It is the supervisor's responsibility to verify and obtain confirmation from all work personnel that all work has been completed.

2. When any doubt exists about the release of equipment for operation:
   a) The supervisor will attempt another call, if not already contacted, to the authorized employee(s) to determine if the clearance can be released.
   b) If again, authorized employee(s) cannot be reached:
      I. The on-duty Operating Authority and work group Supervisor will verify that all tasks on the equipment or system have been completed.
      II. If both supervisors agree that it is safe, the work group supervisor or Operating Authority will sign personnel off of the clearance form **(See Appendix F).**
3. Supervisors releasing the clearance assume full responsibility for the status and release of the equipment in question.
   a. Spare keys will be kept securely in the Safety Coordinator's office for Operating Authority to access once Off-Duty Clearance Release Form has been completed.
4. Upon release of the clearance:
   a) The work group supervisor will issue the copy of this completed "Off-Duty Clearance Release Form" to authorized employee(s) on the first work day of employee's return.
   b) Authorized employee(s) clearance ID badge will remain in Operating Authority's office and shall be collected by the employee(s) upon the employee's return.
   c) Follow foot note on form for distribution requirements.

D. Testing of Equipment:

1. Such testing will only be conducted when no other work is being performed by any personnel on the equipment being tested and the equipment and/or system must be clear of tools and materials.
2. When equipment or systems needs to be tested:
   a) All personnel signed on to that clearance will be notified by the Operating Authority
   b) All personnel shall sign off the clearance.
3. All testing of equipment or systems will be performed only after
   a) A partial release of the clearance has been approved and conducted by the Operating Authority.
   b) Applicable "Danger Do Not Operate" tags and locks will be removed
   c) Only then will the test be performed
4. Upon completion of the testing
   a) A determination will need to be made by the Authorized Employees and Operating Authority to replace tags and locks
   b) Or to completely release the clearance.
5. All other authorized employees requesting **continued protection** must sign back onto the clearance form.
6. Personnel signing back on to the clearance form **will verify that** all required protections are restored.
7. If testing is required multiple times, utilize the **restricted use tag**.

Revised 7/16/2021
Reviewed 8/5/2022

PROCEDURES & PRACTICES
Leland Olds Division–Leland Olds Station
LOS-SAF-09
CONFINED SPACE ENTRY

I. Purpose:

Confined space entry procedures are designed to prevent unauthorized entry into confined spaces and reduce the risk of accidents and injuries to employees, visitors, and contractors while working in and around confined spaces at the Leland Olds Station.

II. Definitions:

A. **Confined Space**–a space that:

1. Is large enough and so configured that a person can bodily enter and perform assigned work; and
2. Has limited or restricted means for entry or exit (for example: tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry); and
3. Is not designed for continuous occupancy.

B. **Entry:** The action by which a person passes through an opening into a permit-required confined space. Entry includes the ensuing work activities in that space and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening.

C. **Permit-Required Confined Space (Permit Space):** A confined space that has one or more of the following characteristics:

1. Contains, or has the potential to contain, a hazardous atmosphere;
2. Contains a material that has the potential for engulfing an entrant;
3. Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly-converging walls or by a floor that slopes downward and tapers to a smaller cross-section; or
4. Contains any other recognized serious safety or health hazard.

D. **Permit-Required Confined Space Program**: The overall program for controlling and, where appropriate, protecting employees, visitors, or contractors from permit-space hazards and for regulating employee, visitor, or contractor entry into permit spaces.

E. **Permit System:** Written procedures for preparing and issuing permits for entry and for returning the permit space to service following termination of entry.

F. **Entry Supervisor**: The person responsible for determining if acceptable entry conditions are present at a permit space where entry is planned, for authorizing entry and overseeing entry operations, and for terminating entry as required.

G. **Authorized Entrant**: A person authorized by the employer to enter a permit-required confined space.

H. **Attendant**: A person stationed outside one or more permit spaces who monitors the authorized entrants and performs duties assigned by the permit-required confined space program.

I. **Hot Work Permit**: The written authorization to perform operations (welding, cutting, heating, etc.) capable of providing a source of ignition.

J. **Non-permit Required Confined Space**: A confined space that does not contain or, with respect to atmospheric hazards, have the potential to contain any hazard capable of causing death or serious bodily harm.

K. **Operating Authority**: The Shift Supervisor or his designate controlling the operations of Leland Olds Station at any given time.

IX. Contractors:

A. Contractors will be informed by their contract coordinator that confined spaces are present at LOS. Appendices 1 and 2 may be used as part of the initial in-briefing. The specific hazards of any permit space that the contractor will enter will be covered in detail.

B. Contractors will be expected to follow their own confined space entry procedures. They are also expected to train their employees on confined space entry per CFR 1910.146 and follow the requirements of the regulation.

C. Contractors will coordinate entry into LOS confined spaces with the LOS Shift Supervisor. The contractor will use LOS Confined Space Entry tags and log onto the LOS Confined Space Entry Permit. See Appendix 4.

1. When a crew of authorized entrants is working together on the same job, the lead person or foreman of the crew may **LOG IN** the crew and get one Confined Space Entry tag for the crew.
2. Each authorized entrant must make a personal check of the tags required by the LOS Operations Tagging Procedure before entering the permit space.
3. In the case of work crews, the lead person or foreman will account for all crew members before logging out.

Appendix 6

CONFINED SPACE ENTRY
CONTRACTOR INSTRUCTIONS

1. Contractors will provide records of confined space entry training before initiating entry. Records will be provided to the contract administrator or engineering coordinator. Contractors will follow their own procedures as well as the following.

2. The following Leland Olds Station procedures will be followed:

   A. Entry into a confined space is initiated at the LOS Shift Supervisor's office.

      1) Inform the Shift Supervisor or his designee where and why entry is required.

      2) The Shift Supervisor will print the LOS entry permit and discuss the confined space with the contractor.

      3) The Shift Supervisor will be responsible for ensuring all air-testing requirements are done. Contractor employees may observe or perform the tests.

      4) Confined spaces will be ventilated for at least 30 minutes prior to and during entry.

   B. Prior to entering the confined space:

      1) The entrant will get a Confined Space Entry tag from the Shift Supervisor and **LOG IN** on the entry permit. The Confined Space Entry tag will be hung outside the entry point before and during entry.

      2) The foreman of a crew may get one Confined Space Entry tag for the entire crew. The foreman is responsible for ensuring all members of the crew are out of the confined space before removing the Confined Space Entry tag.

      3) Each authorized entrant must make a personal check of the tags required by the LOS operations tagging procedure before entering the confined space.

   C. Contractors will follow their own procedures for working inside the confined space.

   D. When work inside the confined space is completed:

      1) Authorized entrants will return to the Shift Supervisor's office and return the Confined Space Entry tag. The entrant will **LOG OUT** of the space on the entry permit.

      2) The attendant will remain on duty until all entrants have exited the permit space.

   E. Non-permit required confined space entry.

      1) The Shift Supervisor has a list of confined spaces at LOS that are considered non-permit-confined spaces.

      2) The same procedures apply except that an attendant will not be required, and rescue equipment need not be brought to the point of entry.

   F. Rescue services available at LOS are the LOS First Response Team and the Hazen Rescue Squad.

BASIN ELECTRIC POWER COOPERATIVE
A Touchstone Energy® Cooperative

LELAND OLDS STATION
CONFINED SPACE ENTRY PERMIT

Permit #

Issued By

Location/Building:	**Clearance Form No.**
Name Of Confined Space To Be Entered:	**Duration Of Permit** Date: __/__/____ To: __/__/____
Authorized Entry Point(s):	Time: __:__ To: __:__
Company Performing the Work:	☐ **Declassified Space** See declassification section for extended duration (when applicable)
Reason For Entry (Describe Work To Be Done):	**Other Permits Required** ☐ Hot Work ☐ Other _____

POTENTIAL CONFINED SPACE HAZARDS (CHECK ALL THAT APPLY)

☑ Oxygen Hazard (<19.5% or >23.5%)	☐ Overhead Hazards, (Ash, Clinkers)	☐ Engulfment
☐ Flammable Gas/Vapors (>10% LEL)	☐ Mechanical Hazards	☐ Welding/Cutting
☐ Toxic Gases or Vapors: (CO,NH3, H_2S,SO_2)	☐ Electrical Hazards	☐ Other
☐ Chemical(s):	☐ High Temperatures > 105 Degrees F	

Hazard Comments/Notes:

PREPARATION FOR ENTRY (INITIAL AFTER STEPS HAVE BEEN COMPLETED)

_____ Affected Dept. Notified Of Service Interruption
_____ Clearance & Tagging Complete
_____ Cleaning, Flushing, Rinsing Complete
_____ Type Of Air-Mover/Ventilation Used _____
_____ Air-Mover Location _____
_____ Space Ventilated For _____ Hours (Minimum 30min.)
_____ Atmospheric Testing Completed/Recorded
_____ Temperature _____ Degrees F
_____ Communication To Be Used Between Attendants and Entrants (Circle One): Voice - Radio - Signaling System
_____ Emergency - Call Main Control Room By (Circle One) : Gai-Tronics, Radio Channel _____. Phone#_____
_____ Pre-Entry Briefing / Review of Clearance Form and Confined Space Entry Permit Completed
_____ Space To Be Ventilated During Entry ? (Circle One) YES or NO
How Is Space To Be Ventilated? _____
_____ Entry Supervisor has determined wearing a harness/lifeline creates a hazardous condition.
Entry Supervisors Initials _____

REQUIRED PROTECTIVE EQUIPMENT

☐ Half Mask or Full Face Cartridge Respirator	☐ Protective Gloves	☐ Face Shield
☐ Breathing Air System or SCBA	☐ Rain Suit / Chemical Suit	☐ Fire Extinguisher
☐ Ground Fault Circuit Interrupter (GFCI)	☐ Goggles	☐ Hearing Protection
☐ Full Body Harness	☐ Rescue Tri-pod & Retrieval Winch	☐ SCBA or Rescue Pack on StandBy
☐ Retrieval Line	☐ Artificial Light	☐ Other_____

Attendant(s) (List by Name) (Not Required for Declassified Spaces)

Print Name	Employee #	Time On	Time Off

GAS TEST RESULTS (Required Daily Prior To Entry, Every Shift and Every 3-Hours (permit-required))												
	Date/ Time	Test	Initials	Date/ Time	Test	Initials	Date/ Time	Test	Initials	Date/ Time	Test	Initials
O_2% 19.5 - 23.5												
LEL% <10%												
CO PPM <35												
SO_2 PPM <2												
Other <PEL												
Other <PEL												
Other <PEL												

Special Instructions:

_____

_____

_____

_____

_____

Entry Supervisor Authorization: The work site has been inspected, all required precautions have been taken, necessary equipment is provided and I believe it is safe to enter the Confined Space.

Entry Supervisor: _____ **Employee #**_____ **Date:** _____ **Time:** _____

Contract Supervisor: _____ **Company #** _____ **Date:** _____ **Time:** _____

Use additional lines if a new Entry Supervisor assumes authorization of the space:

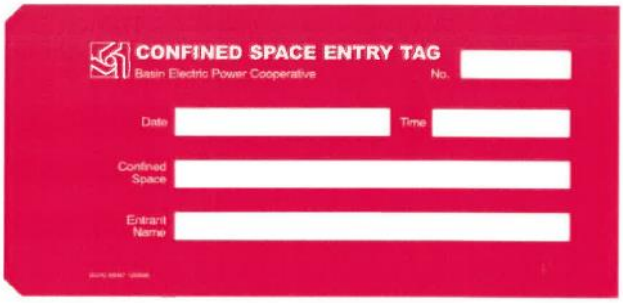
Entry Supervisor: _____ **Employee #**_____ **Date:** _____ **Time:** _____

Entry Supervisor: _____ **Employee #**_____ **Date:** _____ **Time:** _____

I have reviewed the Confined Space Entry Permit, understand Attendant responsibilities and inspected the work site.

Attendant: _____ **Employee #** _____ **Date:** _____ **Time:** _____

(A signature is not required for Declassified Confined Spaces)



pproved 4/5/94
Revised 10/16/09

PROCEDURES AND PRACTICES
Leland Olds Division—Leland Olds Station

HOT WORK PERMITS

I. Purpose:

The purpose of the LOS Hot Work Permit procedure is two-fold:

A. To prevent fires when hot work is done at LOS.

B. To prevent possible hazardous atmospheres when hot work is done in confined spaces at LOS.

II. Definitions:

A. Hot Work is any job that may provide a source of ignition to flammable substances in the work place. Examples are cutting, welding, brazing, grinding, and use of powder-actuated tools. Hot work may also create gases, vapors, or fumes that could cause hazards in confined spaces.

B. Hot Work Permit is a system whereby possible hazards are addressed and protective measures are taken before the actual beginning of the hot work.

C. Non-exempt Area is a location at LOS where a Hot Work Permit is required. See Appendix 1.

III. Procedures:

A. Whenever hot work is done, the individual doing the work is responsible for eliminating any possibility of starting fires at the work site. This is true of both exempt and non-exempt areas.

B. Prior to beginning a job that will include hot work and is located in, or within 35 feet of, a non-exempt area, employees will go to the shift supervisor's office to initiate a hot work permit.

C. The shift supervisor will initiate a Hot Work Permit form and discuss it with the individual.

D. The employee will proceed to the work area and:

1. Find the nearest fire extinguisher. If none are within 30 feet, bring one from the extinguisher storage area on the west side of Unit 1 turbine floor.

2. Observe the area for combustible or flammable materials. Look above, below, & all around for places where sparks, hot slag, or other hot byproducts may present a hazard. Flame-proof material will be placed to prevent the possibility of fire.

3. Watch for coal dust in the area. If it is present, wet the area down prior to beginning work. Do not cause the dust to become airborne.

4. If there is a possibility of a flammable atmosphere, make an atmospheric combustibility test. The atmosphere must be less than 10% of the lower explosive limit (LEL). If the test is greater than 10% of the LEL, then the area must be ventilated to reduce the concentration. The source of the combustible gas must be found and eliminated.

E. When the appropriate checks have been completed, the requester will initial the form in the shift supervisor's office and proceed with the job. While performing hot work under a hot work permit, a second employee will be fire watch. The fire watch will put out small, insipient-stage fires if needed.

F. When a hot work permit is issued in conjunction with a confined-space entry, then Material Safety Data Sheets for substances in the confined space will be consulted, and appropriate personal protective measures taken. The hot work permit will be attached to the confined-space permit.

G. When issued in conjunction with a tagging order, the hot work permit will be attached to the tagging order.

H. Prior to closing a permit, the requester will check the area thirty minutes after completion of work to ensure no chance of a latent fire beginning.

I. When the job is completed, the requester will close the permit at the shift supervisor's office. Completed hot work permits will be maintained in the shift supervisor's office for one month following closing. They will then be sent to the Safety & Administrative Supervisor for keeping per the records retention schedule.

J. When a job is completed at the end of a work shift, the operating crew on duty should be notified and a fire check made thirty minutes later.

IV. Contractors:

Contract coordinators will discuss this procedure with contractors. Contractors are expected to follow these procedures and the following:

A. Provide trained personnel knowledgeable of this procedure to serve as fire watch for their hot work activities
B. Do not initiate any hot work activities until a permit is issued by the shift supervisor or designee.

Appendices

A. Non-exempt Areas list
B. Hot Work Permit form

NON-EXEMPT AREAS

CONFINED SPACES
ACID STORAGE TANK BERM AND SURROUNDING AREA, UNIT 1 & UNIT 2
ACID LINES, UNIT 1 & UNIT 2
IGNITION OIL PUMPS, UNIT 1 & UNIT 2
IGNITION OIL PIPING, UNIT 1 & UNIT 2
HYDROGEN SEAL OIL SYSTEM AND SURROUNDING AREA, UNIT 1 & UNIT 2
COAL SYSTEM
LIFT LINES, UNIT 1 & UNIT 2
PULVERIZERS, UNIT 1
FUEL CONDITIONERS, UNIT 2
FEEDERS, UNIT 1 & UNIT 2
COAL BUNKERS, UNIT 1 & UNIT 2
VEHICLE FUEL STORAGE AREA
IGNITION OIL STORAGE AREA
OIL AND PAINT STORAGE ROOM, UNIT 1
LUBE & OIL STORAGE ROOM - UNIT 1 BASEMENT
LUBE & OIL STORAGE AREA IN COAL/YARD MAINTENANCE BUILDING
TURBINE LUBE OIL SYSTEMS & STORAGE TANKS UNIT 1 AND UNIT 2
CATION TANKS, UNIT 2
MIXED BED TANK, UNIT 2
WAREHOUSE

Hot Work Permit

BASIN ELECTRIC POWER COOPERATIVE
A Touchstone Energy® Cooperative

LELAND OLDS STATION
HOT WORK PERMIT

Permit #:
Issued By:
Clearance #:

BEFORE INITIATING HOT WORK, CAN THIS JOB BE AVOIDED?
IS THERE A SAFER WAY?

This Hot Work Permit is required for any operation involving open flames or producing heat and/or sparks. This includes, but is not limited to: Brazing, Cutting, Grinding, Soldering, Torch Applied Roofing and Welding.

INSTRUCTIONS

HOT WORK BEING DONE BY
- ☐ EMPLOYEE
- ☐ CONTRACTOR

DATE __/__/____ | W/O NUMBER

LOCATION/BUILDING AND FLOOR

NATURE OF JOB

NAME OF PERSON DOING HOT WORK

EQUIPMENT TO BE USED

PERMIT DURATION

DATE __/__/____ to __/__/____ | TIME __:__ to __:__

I verify that the above location has been examined, the precautions checked on the Required Precautions Checklist have been taken to prevent fire, and permission is authorized for this work.

SIGNED (Operating Authority) Employee No.

SIGNED (Qualified Employee) Employee No.

☐ Hot Work being performed in a Confined Space. Confined Space and Clearance Program followed.

Employee Assigned Fire Watch Employee No.

1/2 hour Check Complete	DATE	TIME

FINAL CHECK-UP

Work area and all adjacent areas to which sparks and heat might have spread (including floors above and below and on opposite sides of walls) were inspected 3 hours after the work was completed and were found firesafe.

SIGNED Employee No. Date/Time

REQUIRED PRECAUTIONS CHECKLIST

- ☐ Available sprinklers, hose streams and extinguishers are in service/operable
- ☐ Hot Work Equipment in good repair

Requirements within 35 ft (11m) of Work

- ☐ Flammable liquids, dust, lint and oily deposits removed.
- ☐ Flammable atmosphere in area eliminated. (see monitoring requirements below)
- ☐ Floors swept clean and trash removed.
- ☐ Combustible floors wet down, covered with damp sand or fire-resistive materials
- ☐ Personnel protected from electric shock when floors are wet.
- ☐ Remove other combustibles where possible. Otherwise protect with fire-resistive tarpaulins or metal shields
- ☐ All wall and floor openings covered
- ☐ Fire-resistive tarpaulins suspended beneath work.
- ☐ Protect or shut down ducts and conveyors that might carry sparks to distant combustibles

Work on Walls, Ceilings and Roofs

- ☐ Construction is noncombustible and without combustible covering or insulation
- ☐ Combustibles on other side of walls, ceilings or roofs are moved away

Work on Enclosed Equipment

- ☐ Enclosed equipment cleaned of all combustibles
- ☐ Containers purged of flammable liquids/vapors.
- ☐ Pressurized vessels, piping and equipment removed from service, isolated and vented.

Fire Watch/Hot Work Area Monitoring

- ☐ Fire watch will be provided during and for 30 minutes after work, including any coffee or lunch breaks.
- ☐ Fire watch is supplied with suitable extinguishers, and where practical, a charged small hose.
- ☐ Fire watch is trained in use of equipment and in sounding alarm.
- ☐ Fire watch may be required in adjoining areas, above and below
- ☐ Monitor Hot Work area for 3 hours after job is complete

Other Precautions Taken:

- ☐ _____

Atmospheric Testing Record if Required — Monitoring Conducted By: _____

Gas Testing Results	Time: __:__	Time: __:__	Time: __:__	Time: __:__	Time: __:__	Time: __:__
O_2 (19.5-23.5%)						
LEL %						
Other						

PROCEDURES AND PRACTICES
Leland Olds Division--Leland Olds Station

BARRICADE TAPE

I. Purpose:

The purpose of the Barricade Tape Procedures is to explain when, why and how Barricade Tape is to be used within Leland Olds Division.

II. Procedures:

A. There are two kinds of Barricade Tape used at Leland Olds Division.

1. Yellow Caution Tape – Used to mark an area where a condition exists that is hazardous.

2. Red Danger Tape – Used to mark an area where a condition exists that is immediately dangerous to life or health.

B. Yellow Caution Tape may be passed through after the hazard is identified and protective measures taken.

C. Red Danger Tape should be detoured around. It means, “Danger, Do Not Enter!” Authorization to enter a Red Taped area must be obtained from the employee placing the tape. In his/her absence, the supervisor of the group placing the tape can give permission.

D. Procedures for putting up Barricade Tape:

1. Select the color of Barricade Tape to match your needs.

2. Place the Barricade Tape to isolate the hazard from all sides accessible by people.

3. Fill out a “CAUTION - Barricade Tape” label or a “DANGER – Barricade Tape” label (Appendix 2) as follows:

a) CAUTION – Barricade Tape.

(1) Complete the Area, Hazard, Date, Time, and Installed By fields.

(2) After the tape is erected, remove the backing and fold the label around the tape in its approximate center.

b) DANGER – Barricade Tape

(1) Complete the Area, Hazard, Tape Installed By, Name of Operator Notified, and Responsible Department/Area/persons fields.

(2) Fill in the Area/Group field with the work group name, and fill in names of employees that will work in the area. Then fill in the Date and Time the Barricade tape was put up and the anticipated removal date.

(3) After the tape is erected, remove the backing and fold the label around the tape in its approximate center.

4. A label should be affixed to each piece of barricade tape put up.

5. Do not close off walkways and traffic areas unnecessarily.

6. Barricade Tape can be moved temporarily to move in materials and equipment by the employee placing the tape.

7. Log all Barricade Tape placements with the Shift Supervisor in the Barricade Tape Log (Appendix 1). Logging includes where the tape is, the nature of the hazard, the date placed, and the employee placing the tape.

8. Remove all Barricade Tape when the job is finished and sign off the Barricade Tape Log.

E. **It must be understood that Barricade Tape does not constitute a barricade. It is a warning only. A barricade is a structure (guardrail) capable of withstanding 200 lbs of side pressure without moving. If a guardrail cannot be fabricated, then a guard must be posted to prevent accidental exposure.**

1. There are portable barricades in the LOS Warehouse for use inside the plant.

2. Corral panels are kept by LOS Coal & Yard for use on LOS plant grounds.

F. If multiple work groups need to be in a Red Barricade Tape area, it must be coordinated in advance, and members of both work groups should sign onto the DANGER – Barricade Tape label and the Barricade Tape Log.

G. Contractor Instructions:

1. Contractors will be informed of this procedure at their initial job briefing.

2. Contractors will follow these procedures.

3. The contractor foreman can sign onto the “DANGER – Barricade Tape” label and the Barricade Tape Log for the entire crew.

Appendix 1 – Barricade Tape Log Form
Appendix 2 – Danger and Caution Barricade Tape Labels

BARRICADE TAPE LOG

Name	Date Installed	Area	Reason	Date Removed	Initials

CAUTION

BARRICADE TAPE

Admittance Not Restricted

Area: _____ Date: ____ / ____ / ____ Time: ____ AM / PM

Hazard(s): _____ Tape Installed By: _____

DANGER

BARRICADE TAPE

Area: _____

Hazard(s): _____

Tape Installed By: _____

Name of Operator Notified: _____

Responsible Department/Area/person(s): _____

HPC P-8

Restricted Admittance

The following personnel are authorized to enter the DANGER area:

Area/Group	Names:

Date: ____ / ____ / ____ Time: ____ AM/PM

Anticipated tape removal date: ____ / ____ / ____

PROCEDURES AND PRACTICES
Leland Olds Division--Leland Olds Station

CARBON MONOXIDE MONITORING
RAIL UNLOADING FACILITY AND LOWERING WELL

I. Purpose:

The purpose of monitoring for carbon monoxide in the rail unloading facility and the lowering well is to prevent employee exposure to carbon monoxide above the OSHA-permissible exposure limit (PEL) and the eight-hour time weighted average (TWA). This will be done by personnel monitoring whenever these areas are entered by any employee.

II. Definitions:

A. The OSHA Permissible Exposure Limit for Carbon Monoxide (CO) is set at 50 ppm. This is also the allowable Time Weighted Average for an 8-hour day.

B. Time Weighted Average is the average exposure of a person for eight hours. This is an average usually determined by taking readings for specific durations and then performing the following calculation.

Carbon Monoxide Limits at Leland Olds Station

1. The OSHA-Permissible Exposure Limit (PEL) for Carbon Monoxide is 50ppm. This is for an eight-hour day and gives a total exposure of 400ppm.

2. The Ceiling Limit for Carbon Monoxide is 200ppm. A person should not enter an area without breathing air when the concentration is above 200ppm.

III. Procedures:

A. Procedures for entering the Rail Unloading Facility Lower Level or Lowering Well.

1. Depending on the point of entry, pick up a CO Monitor. If working as a crew, one monitor can be used for the entire crew. If the crew will be separated or moving around in the area, then each person should have a monitor.

2. Turn on the monitor and do not enter until it's warm-up is complete.

3. Enter and perform the required job.

a) When the concentration is below 50ppm, a person can spend an entire eight-hour day in the area. The question arises on the area between 50ppm and 200ppm. This needs to be looked at on a case-by-case basis. If the concentration is above 50ppm, i.e., 75ppm, and the work to be done will take two hours, then the total exposure is 150ppm. This is well below the eight-hour total exposure. If the concentration is 175ppm and the job will take three hours, then the total

exposure would be 575ppm. This is too much exposure.

b) The CO monitors are set to alarm at 35ppm with a second alarm at 70ppm. These alarms are to bring attention to the fact that there is Carbon Monoxide present. When they go off, stop work and exit the area. This work will have to wait for the CO concentration to dissipate.

IV. Contractors:

A. Contract coordinators will discuss with contractors the fact that Carbon Monoxide may be present in the Lowering Well and the Rail Unloading Facility as part of the initial in-briefing.

B. Contractors are expected to follow their own procedures to protect their employees.

AVS & LOS Station Procedure

Subject:	Procedure No.	Revision No.	Page
Dropped Object Prevention Plan	Procedures & Programs		7

1.0 PURPOSE / SCOPE

1.1 Purpose

1.1.1 Basin Electric Power Cooperative (BEPC) Antelope Valley Station (AVS) and Leland Olds Station (LOS) is committed to providing a safe and healthful environment for employees. It is our policy to protect employees from occupational injuries by implementing and enforcing safe work practices.

1.1.2 The Dropped Object Prevention Plan is to elevate awareness to the potential for falling objects, and the damage and injury that can be prevented by an evaluation of our areas, recognition of the hazards, and implementing established procedures.

1.1.3 The plan will provide guidance for both management and workers to recognize the hazards and select the most appropriate preventative actions.

1.2 Scope

1.2.1 Intended to significantly reduce both hazards and severe injury and risks to employee(s) that dropped objects pose.

1.2.2 To establish minimum requirements for securing tools and equipment to minimize the risk of injury to employees exposed to dropped objects.

1.2.3 To ensure that workers are trained to secure tools at height and understand correct procedures.

2.0 DEFINITIONS

2.1 Anchorage: a secure point of attachment for tethers, tools and transport buckets with closure systems which is independent of an anchorage used for fall protection for personnel.

2.2 Drop Hazard: any tool, material or object that has an opportunity to fall from elevation to lower level causing potential for damage to property, injury or death.

2.3 Dropped Object Zone (DOZ): an area with potential to be impacted by drop hazards currently present in a work-in-progress above. The DOZs are to be secured with barricade tape to prevent unauthorized entry. Signage stating the hazard and who to contact for information will be posted at the DOZ as well.

2.4 Mitigation: the elimination or reduction of the frequency, magnitude, or severity of exposure to risks by the minimization of the potential impact of a threat or warning.

2.5 On-Site Coordinator: Basin Electric Power Cooperative (BEPC) on-site employee that interfaces with contractors.

2.6 Operating Authority: the Supervisory Staff in the Operation Section is the "Operating Authority" in the power plant. Operating Authority duties may also be assigned to the Shift Supervisor.

2.7 Qualified Employee: a person that has been trained in and familiar with the safe work practices, safety procedures and programs, and other safety requirements that pertain to their respective job assignments.

2.8 Safety Net: netting or fencing installed between handrail and toe board to prevent objects from falling to lower levels.

2.9 Spotter: an individual that is assigned the responsibility of preventing entry to an area when there is a danger of dropped tools, materials or sparks.

2.10 Supervisory Authority: the Plant Manager is the "Supervisory Authority" of this program and administers manning the installation, maintenance and the operations of the procedure. This person may designate this authority if necessary.

2.11 Tool Arrest System: include tool tethers, which will arrest the fall of the tool and prevent it from striking a lower level and others below.

2.12 Tool Belt: a device that is designed to ergonomically support and manage other dropped prevention items such as, lanyards, tethers or pouches on the person working.

2.13 Tool Bucket: a bucket designed for the purpose of carrying tools and materials. Tool buckets must be capable of being closed and secured to prevent the contents of the bucket from spilling. *Maximum load in buckets not to exceed 50lbs when manually* lifting. Plastic and metal buckets are not to be used for lifting unless it is the rated weight capacity safe bucket hook and loop closure.

2.14 Tool Lanyard/Tether: an extension made of durable materials that is designed to prevent an object from being dropped. A connection point on either end of the tether for securing an object to a worker or stationary item shall be utilized.

2.15 Tool Pouch: a bag or pouch designed to secure single tools or items (hammer, wrench, radios, etc.) from being spilled or dropped.

3.0 Contractors are responsible for:

3.1.1.1 Providing employees with appropriate dropped object prevention training.

3.1.1.2 Enforcing and ensuring compliance by all employees with the Dropped Object Prevention Plan.

3.1.1.3 Correcting any unsafe practices or conditions immediately.

3.1.1.4 Planning tasks and monitoring work areas in a way that reduces the potential for workers to be exposed to hazards from falling objects.

3.1.1.5 Reporting any dropped or fallen objects to the AVS and LOS On-Site and/or Safety Coordinator.

3.1.1.6 Stopping work if hazardous conditions prevent the job from being done safely.

4.0 GUIDELINES/PROCEDURE

4.1 Guidelines

4.1.1 Dropped Object Zones

4.1.1.1 Dropped Object Zones are to be clearly marked with red barricade tape to restrict access.

4.1.1.2 Only employees directly engaged in the activity conducted overhead will be admitted into a Dropped Object Zone.

4.1.1.3 Personnel working below areas where overhead work is in progress shall inform the workers above of their presence and vice versa.

4.1.2 Scaffolding

4.1.2.1 Red barricading around scaffolding when erecting, modifying and dismantling to ensure no foot traffic in the dropped object zone.

4.1.2.2 If work is to be performed from scaffolds over areas where employees must walk or work below, scaffolds shall have complete toe boards,

netting and/or covered walkways installed. If not applicable document deficiencies on scaffold tag (i.e. toe board cannot be installed due to space constraints).

4.1.3 Tool Lanyards/Tethers

4.1.3.1 Tool Lanyards and tethers shall be required when barricade tape is not installed, and work requires tools to be utilized outside of protected edges (i.e. reaching over/through handrail to work on a valve with the potential to drop an object to a lower platform/level).

4.1.3.2 After establishing an adequate attachment point on a tool, a proper tool tether will then need to be selected which has an appropriate load rating for the tool to be tethered.

4.1.3.3 Tethers come in different lengths, strengths, and design. Some are basic lanyards, some retract, and others coil. Be sure to select a tether that best fits the tool(s) being used for the job.

4.1.4 Tool Holsters/Pouches

4.1.4.1 For some tools and objects, a tool holster or pouch may be appropriate. Tools used in these holsters should weigh less than or equal to the manufactured stated load-rating.

4.1.5 Tool Buckets

4.1.5.1 For the safe transportation of tools and materials at heights or while lifting, buckets may be utilized only if they are manufactured with a closure system which allows the user to secure the contents of the bucket from potential spills.

4.1.5.2 Tool buckets not to exceed 50lbs max weight. If exceedance occurs, other methods shall be utilized such as a hoist/overhead crane.

4.1.6 Anchorage Points

4.1.6.1 Upon choosing a proper method for tethering, it becomes necessary to select an appropriate anchor point for the remaining end of the tethering device. For many small tools, connecting to the worker can be the best option.

4.1.6.2 Anchor points on person may include:

4.1.6.2.1 Tool Lanyard/Tether
4.1.6.2.2 Tool Pouch/Holster
4.1.6.2.3 Tool Belt
4.1.6.2.4 Sometimes a harness

4.1.6.3 Anchor points on a structure may be:

4.1.6.3.1 Walking/working surface.
4.1.6.3.2 Handrail/guardrail/toe board systems.
4.1.6.3.3 Non-insulated piping that does not exceed 200F.
4.1.6.3.4 Fixed/A-frame or rolling ladders or aerial work platforms with working platform systems as long as it does not interfere with the mechanics or manufacturer's instructions intent of the ladder.
4.1.6.3.5 Scaffolding bars.

4.1.6.4 Only tools up to 10lbs. shall be tethered to a person. Tools 10lbs. in weight or greater shall be tethered to a structure capable of supporting the object in the event of a fall.

4.1.6.5 Restrictions for tethering equipment:

4.1.6.5.1 Maximum temperature of 200 degrees F for nylon and polyester tethers.
4.1.6.5.2 Keep tethered equipment on a person to a minimum.
4.1.6.5.3 Total weight of all tools being tethered to a person with the addition of a harness must not exceed 310 lbs.
4.1.6.5.4 Keep tool tethers clear of rotating equipment.

4.1.7 Toe Boards

4.1.7.1 Toe boards will be erected along the edge of overhead work in order to protect employees below as applicable.

4.1.8 Safety Netting / Fencing

4.1.8.1 Nets designed for use to prevent falling objects shall not be used as fall protection for human beings.

4.1.8.2 The use of safety nets shall be evaluated by On-Site Coordinators when planning outage work.

4.1.8.3 Snow fencing (CAT ID 167083) or netting to be zip-tied between top and bottom rail to prevent objects from being tipped over from walkways or scaffolding in high traffic areas.

4.1.8.4 Visual inspections of safety netting shall be completed, and defective netting will not be deployed.

4.1.9 Guardrail System

4.1.9.1 If guardrail systems are to be engaged, they will need to be evaluated to ensure any openings are not large enough for tools or materials to pass through.

4.1.9.2 It is recommended they be enclosed with a blanket, hole cover, screen, etc. to prevent materials from passing through.

Housekeeping

4.1.9.3 Trash and waste should be kept in appropriate containers which are to be located in convenient locations across the workplace. When removed from elevated locations, containers cannot be thrown over edges and must be lowered appropriately. Containers must be secured/closed to prevent spillage.

4.1.9.4 Employees should “clean as you go” and maintain an orderly work area, resulting in a lower chance for dropped material.

4.1.9.5 Tools and other materials should also be kept in an organized, orderly fashion.

4.1.9.6 At a minimum, a daily cleanup of scrap, trash, tools and excess materials will take place.

4.1.9.7 Holes and openings in decks and platforms shall be managed. Fire blankets or other adequately constructed coverings shall be utilized over floor penetrations, chafing rings, and other small openings in order to prevent dropping smaller objects, i.e. nuts and bolts.

4.1.9.8 Special attention shall be given to cleaning up of smaller objects such as bolts, welding rod, etc. that could be dropped or kicked through smaller openings, and tin or plywood that could be blown off by wind gusts.

4.1.9.9 Materials used for construction activities such as boards, plywood, sheet metal, and other material that can be blown off by high winds or gusts shall be adequately secured to prevent displacement.

Tool and Material Storage

4.1.9.10 Where tools or materials are stacked higher than the edge of the toe boards, screening, paneling, s-hooks or wire will be installed from the working surface to the top of the guardrail or mid-rail. This will be done for a sufficient distance to ensure these objects will not have an opportunity to become drop hazards.

4.1.9.11 All stacked materials should be stable and self-supporting.

4.1.9.12 Blankets can be placed to prevent objects from falling through grating, buckets can be used to store small parts and tools, wire or straps can be used to secure larger materials and buckets.

Tool and Material Handling

4.1.9.13 Employees should utilize positive tool transfer.

4.1.9.14 When transferring a tethered tool from one employee to another, “100% tie off” should be engaged. The tool should be tethered to the passing employee. Prior to handing off, the receiving employee should connect their tether to the tool as well. After positive connection has been completed, the passing employee may disconnect their tether from the tool. By utilizing this passing method, the tool never has an opportunity to become a drop hazard.

4.1.9.15 Secure loads and do not overload carts when moving material.

Demolition

4.1.9.16 When equipment is to be demolished, special attention must be given to securing, leveling and rigging the material to be removed.

4.1.9.17 When sheet metal, wall board or panels, or plating is to be cut out, a hole shall be drilled or cut to allow for cables and shackles to be attached to eliminate the potential to drop the material when the cut is complete. If this is not feasible, some other adequate and equally effective means shall be considered and documented on the JSA.

4.1.9.18 Insulation shall be evaluated for integrity and properly abated or secured, if necessary, before demolition.

Hoisting and Lifting

4.1.9.19 Should tools and equipment need to be raised / lowered to or from an upper work area, this work will be performed by a crane wherever feasible. If use of a crane is not feasible, the material will be raised using a rope with the tools and equipment securely tied or in a closed top tool bucket.

4.1.9.19.1 Only manufactured tool buckets designed for rigging shall be used.

4.1.9.19.2 Plastic or metal buckets with wire handles shall not be used for hoisting or lifting.

4.1.9.19.3 Ropes shall be inspected for tears, frays, grease, knots, etc. Ropes must be in good working condition.

4.1.9.20 Do not overload the bucket based off manufacture ratings.

4.1.9.21 Any bucket on an elevated surface with an unprotected edge must be secured to the work platform or located appropriately to prevent the bucket from tipping over or falling to a lower level.

4.1.9.22 The area below must be barricaded with red tape or have a spotter

4.1.9.23 If a minimum of two employees are working and one employee is manually hoisting a tote, using a mechanical hoist or lowering one object, the other employee may be utilized as a spotter for a short duration to ensure no one enters the drop zone. This would not require barricade tape to be erected.

4.1.9.24 Lifting areas must be barricaded to prevent unintentional access beneath the suspended load per the AVS and LOS Barricade Tape and Identification Tag Program.

4.1.9.25 When utilizing a crane, to hoist materials and tools to elevated work areas, the spotter(s) shall ensure that workers are not under suspended loads during the lift. Swing radius of cranes must be marked by red barricade tape.

4.1.9.26 The area to be barricaded must be large enough to account for the potential for tools and material to bounce off or deflect from piping and structures in the event they should fall.

Equipment Inspection

4.1.9.27 Drop prevention equipment shall be inspected prior to use by the individual utilizing the tether, bucket, etc.

4.1.9.28 Excessively worn or damaged tools or materials must be immediately removed from service and replaced.

4.1.9.29 Job Safety Analysis (JSA) of the area shall be completed prior to work.

4.2 Procedure

4.2.1 Injury Prevention Strategy

4.2.1.1 Utilize Job Safety Analysis (JSA) to identify and mitigate dropped object potential.

4.2.1.2 Frequent communication between supervisors, safety, employees and/or contractors to control these hazards.

4.2.1.3 Focused safety inspections by safety, supervisors, on-site coordinators and/or contract supervisors.

4.2.1.4 Outage and construction project environments with limited “real estate” or work areas require a higher level of protection from falling objects for workers engaged in their work tasks. AVS and LOS expects these factors to be considered to provide a safe working environment.

4.2.1.4.1 Housekeeping
4.2.1.4.2 Barricading
4.2.1.4.3 Overhead protection or side protection (netting)
4.2.1.4.4 Effective work coordination and scheduling
4.2.1.4.5 Human factors (fatigue, inattention, lack of pre-planning)

4.2.2 Reporting and Classification for Dropped Objects

4.2.2.1 Dropped objects that do not result in an injury or are found shall be reported as a near miss.

4.2.2.2 Potential dropped objects shall be reported as an Observation.

4.2.2.3 The Safety Department will determine the potential for injury by utilizing the Dropped Objects Calculator.

4.2.3 Training Requirements

4.2.3.1 Employees shall be trained initially and every three years thereafter.

4.2.3.2 Training shall include but not limited to:

4.2.3.2.1 Nature of drop hazards and dropped objects in the workplace.
4.2.3.2.2 Correct procedures and equipment use for drop prevention.
4.2.3.2.3 Proper storage and handling of equipment and materials at heights.
4.2.3.2.4 Reporting requirements for incidents and near misses.

4.2.3.3 Circumstances where retraining is required include, but is not limited to:

4.2.3.3.1 Changes in the workplace that render previous training obsolete.
4.2.3.3.2 Changes in the type of prevention systems or equipment.
4.2.3.3.3 Inadequacies in affected employee (s) knowledge or use of prevention systems or equipment indicated by supervisory observations.

4.2.3.4 Training and retraining must be documented.

LELAND OLDS STATION PROCEDURE

Origination Date:	Procedure No.:	Revision No.:	Date Revised:	Page:
06/29/2010	3	3	6/6/2022	1 of 11

Affected Area(s):	Originating Department:	
ALL	Environmental	
	Final Approval:	Date:
	[signature]	6-20-22

Subject:

RADIATION PROTECTION PROGRAM

PURPOSE AND SCOPE

To protect the health and well-being of employees, contractors and the public from exposure to ionizing radiation. To inform employees of the procedures required for working with or in the vicinity of devices that use radioactive material. Radioactive material is used at the Leland Olds Station for process density measurement in the flue gas desulfurization unit.

I. DEFINITIONS

A. ALARA – As Low As Reasonably Achievable

B. RSO – Radiation Safety Officer "the individual who has knowledge and responsibility for applying appropriate radiation protection regulations." (Defined by NRC)

C. NRC – Nuclear Regulatory Commission

D. NDDEQ – North Dakota Department of Environmental Quality

E. RADIATION – ionizing radiation (gamma rays and x-rays, alpha and beta particles, high-speed electrons and protons, neutrons and other particles capable of producing ions.) NOTE: radiation as used in this procedure does not include non-ionizing radiation (such as visible light, infrared, microwaves, and radio waves).

F. RADIATION SOURCE – any radioactive material, device or equipment emitting or capable of producing radiation.

G. DECLARED PREGNANT WOMAN – refers to a woman who has voluntarily informed the Radiation Safety Officer in writing, of her pregnancy and the estimated date of conception. The declaration remains in effect until the declared pregnant woman withdraws the declaration in writing or is no longer pregnant. (See Attachment 1)

II. RESPONSIBILITIES

A. WAREHOUSE DEPARTMENT

1. Warehouse personnel shall be responsible for notifying the RSO within three business hours upon receipt of a package containing a radioactive source.

    a) The normal receipt process is to notify the RSO or the Safety Department immediately after receipt of items.

2. Warehouse personnel do not open or handle the radioactive labeled package until an RSO has inspected and approved further handling.

B. EMPLOYEES

1. All employees are responsible for maintaining exposures to radiation and radioactive material as low as reasonably achievable (ALARA).

2. Employees are required to:

    a) Obey all radiological postings.

    b) Comply with all radiological and safety rules.

    c) Stay out of radiological controlled areas while radiography is being performed by others. Entry into a barricaded area will require the radiographer to be notified in order to retract the radioactive source.

    d) Report to their supervisor any observed damage to radioactive sources or any other unusual radiological situations.

    e) Female employees working near radiological sources that become pregnant or are attempting to become pregnant will be made aware of the radiological hazards to the embryo/fetus upon hire and annually thereafter. These training records will be maintained at LOS. It remains the sole and fundamental responsibility of the female employee to decide whether to formally declare, **in writing**, her pregnancy, and consequently become subject to dose limits and restrictions.

C. RADIATION SAFETY OFFICER

1. The RSO provides day-to-day management, oversees the radiation safety program and assures compliance with state and federal regulations by:

   a) Confirming that radiation exposure levels from radioactive sources or radiation machines are ALARA.

   b) Applying special limitation for pregnant women who are exposed to radioactive sources.

   c) Restricting uses, maintaining records and controlling inventory. Maintains recordkeeping for all radiation sources, leak tests, area surveys and personnel exposures.

      (1) Controls and documents the records and inventory of all radiation sources:

         (a) Amount purchased

         (b) Amount in storage

         (c) Amount used and disposed of

         (d) Applicable dates

   d) Monitoring personnel, radiation sources and work areas.

      Ensures that wipe testing is performed on radioactive sealed sources per NDDEQ guidelines. Wipe testing also involves the evaluation and repair, if necessary, of radiation devices as well as label maintenance.

   e) Posting precautionary warnings at appropriate locations.

      (1) Precautionary signs

      (2) Notice of availability of the license, certificate of registration and all conditions pertaining thereto. This information may be read on the main bulletin board in the Administration Building.

(3) Notice of availability or any notice of violation involving radiological working conditions, proposed imposition of civil penalty or order issued pursuant to the Notice, and any response from the licensee or registrant. This information may be read on the main bulletin board in the Administration Building.

f) Training employees as outlined in IV. Program Requirements, Sec. E.

(1) Notifying personnel about posting of applicable regulatory provisions and standards for protection.

(2) Coordinating emergency response procedures with the Safety Coordinator.

(3) Coordinating inspection of radiation machines.

2. The RSO or alternate RSO shall inspect incoming packages designated with the radiation source symbol in accordance with procedures set forth by the Agreement State and 10 CFR 20.1906(e)(1). (see Attachment 2)

III. PROGRAM REQUIREMENTS

A. GENERAL REQUIREMENTS

1. Radiological Identification System

a) All Radiological areas are identified by one or more of the following types of postings:

(1) Yellow signs reading "Caution, Radioactive Materials" with the standard radiation trefoil in magenta and / or black.

(2) Yellow and magenta rope, tape, chains or other barriers.

b) All radiological areas are posted with information identifying contact information for the RSO and Alternate RSO. (see Attachment 3)

c) Sealed radioactive material density gauges are located in the below listed process areas. These devices are being used to measure the density of materials in process piping.

(1) The reagent building has four (4) radiological source meters to measure the density of the lime and reagent slurries.

(a) Limestone slurry from the Ball Mill A & B (1 source each) source is Cs-137 and has a strength of 20 mCi.

(b) Reagent slurry to the absorbers from slurry tank A & B (1 source each) source is Cs-137 and has a strength of 10 mCi.

(2) The absorber building has two (2) radiological source meters to measure the density of the outgoing absorber slurry.

(a) Unit 1 and Unit 2 absorber bleed – (1 source each) source is Cs-137 and has a strength of 10 mCi.

d) Due to the generally inaccessible locations and low radioactivity of the source material, there is no health hazard under normal operating conditions. Additional exposures could occur if work is performed on or near a radioactive material source holder or detector without taking proper precautions.

e) The procedures noted below will be followed when it is necessary to perform work that could place the employee in the radiation path of a density meter.

(1) Notify the Radiation Safety Officer of the nature of the work to be performed. The shutter on the device must be physically locked closed before work can be done. At present, employees qualified to perform the radioactive material source lockout are:

(a) Env. Coordinator (RSO) Casey Mutzenberger #7271

(b) Safety Coordinator (Alternate RSO) Matt Middlemas #7202

f) The RSO or qualified person will close and lock the shutter mechanism. The closure of the shutter mechanism will be verified by means of a calibrated radiation survey meter.

g) Routine maintenance performed by plant employees include leak tests and shutter checks. These activities are performed by the RSO, alternate RSO.

h) Because personnel at LOS are categorized as members of the public and will be exposed to doses of less than 100 mrems per year and less

that 2 mrem per hour, personal monitoring devices (dosimetry) are not required. However, anyone performing routine maintenance or otherwise working near the gauges may wear a Ludlum Model 25 personal radiation dosimeter. Dosimeters shall be re-calibrated annually.

i) Non-routine maintenance, or work that presents risk of causing a radiological event, including (but not limited to) installation, relocation, dismantling, replacement, or packaging for transport of a sealed source will be performed by Thermo Scientific or a person qualified and approved by NRC or an Agreement State.

j) Upon completion of the work, the RSO or qualified person shall place the source shutter back in service, and the shutter mechanism locked open where possible and verified with a radiation survey meter.

k) Both a pre-shutter closing and post-work shutter opening survey meter readings must be recorded and maintained by the RSO.

l) The Shift Supervisor is considered the source custodian and shall notify the RSO in the event of the loss of, suspected or actual damage to, any sealed radioactive source within his area of responsibility.

m) Sealed radioactive sources shall be inventoried by the RSO at intervals not to exceed six (6) months. These inventories shall establish the physical location of each source and verify the presence and adequacy of associated postings and labels. This inventory shall be documented using the Radiation Audit form. (see Attachment 4)

n) The integrity of a sealed source shall be established by a wipe test or other approved leak test method. Leak tests on sealed radiation sources shall be conducted at intervals determined by applicable licensing agreements and requirements.

(1) A test result that reveals the presence of removable radioactivity above 0.005 microcuries on the non-radioactive surface is an indication that the sealed source has lost its integrity. The leaking source shall be contained in a manner that minimizes the spread of radioactive contamination.

(2) Leak testing shall be performed at intervals approved by the NDDEQ. Leak tests will be performed by an organization authorized by the NRC or an Agreement State to provide leak

testing services for other licenses or using a leak test kit supplied by an organization authorized by the NRC or an Agreement State to provide leak test kits to other licensees and the leak test is performed according to the kit supplier's instructions.

o) Shutter checks shall be performed at an interval not to exceed six (6) months. The shutter check shall be documented using the Radiation Audit form. (see Attachment 4)

Procedure for a nuclear radiation gauge shutter check:

(1) Note position of shutter handle and record on Nuclear Radiation Gauge Shutter Check sheet.
(2) Unlock shutter handle.
(3) Rotate shutter handle from current position.
(4) Note any abnormalities on the Radiation Audit form.
(5) Replace shutter handle to original position.
(6) Replace shutter handle lock.

p) If the Ludlum survey meter is not available due to calibration or repair services, LOS may borrow a survey meter from the Antelope Valley Station (License No. 33-10911-03) or other survey meter as approved by the NDDEQ.

B. RECEIPT, SHIPMENT AND STORAGE OF RADIOACTIVE MATERIALS

1. Upon receipt of sealed radioactive sources, Warehouse personnel shall notify the RSO or Alternate RSO within three business hours.

2. The RSO shall inspect the packaging for damage and contamination and perform radiation monitoring in accordance with applicable regulations. RSO shall perform a leak test in accordance with 10 CFR 20.1906(e)(1). (See Attachment 2 for Receipt Procedure). The form "Receiving and Inspection of Radioactive Devices" shall be used to document receipt of radioactive materials (see Attachment 5). The source should then be placed into proper storage or set up into the devices or configuration in which they will be used.

3. Labels shall be applied to all sealed sources regardless of the activity of the source, to minimize the likelihood of loss or unauthorized usage.

4. In the event storage of radioactive materials is required, storage locations of sources shall be marked with signs stating "Caution, Radioactive Materials Storage Area" in order to ease location identification during inventory.

Storage rooms or cabinets containing sealed radioactive sources shall be locked, monitored quarterly and posted by the RSO.

5. The RSO shall perform radiation and contamination monitoring of the sealed radioactive source storage area or facility before its initial use and at least annually thereafter. Monitoring shall be performed whenever changes in status such as receipt of a new source or modifications to shielding are made that may significantly affect radiological conditions.

6. The RSO shall inventory radioactive sources in storage at six-month intervals. These inventories are meant to establish the physical location of each source, verify the presence and adequacy of postings and labels and establish the adequacy of storage locations, containers and devices.

C. TRAINING AND EDUCATION

1. The RSO will ensure that Radiation Awareness Training is completed by employees who frequently enter areas where radiological sources are found (Reagent and Absorber buildings).

2. Refresher radiation training shall be conducted annually and whenever significant changes are implemented that might affect employee exposures.

D. EMERGENCY PROCEDURES

1. Emergency procedures are to be instituted at the time of an incident involving devices containing radioactive material. Incidents could include fire or explosion on the site in an area where devices are installed or stored, the dislocation of a gauging device from its installed position, etc. The following guidelines should be followed in the event of an emergency.

   a) Notify all persons in the area and evacuate at once.

   b) Notify the RSO.

   c) Attempt to put out incipient stage fires by approved means.

   d) Fire-fighting or other emergency activities may be governed by restrictions of the RSO.

   e) In the case of a dislocated source, the shutter will be closed, if possible; and a visual inspection completed to determine physical damage to the device. If the shutter cannot be closed, the beam will be measured to determine potential exposure levels around the device.

(1) Personnel other than those working with the device will be directed away from the immediate area.

(2) The RSO or designee will supervise movement of the device to a storage area where it will be maintained until arrangements can be made for repair and reinstallation.

f) If a device is directly involved in a fire or explosion, the RSO or designee will provide emergency response personnel with information regarding the location of gauges. After the immediate threat has been resolved, the shutter will be closed, if possible; visual inspection will be completed; and a radiation survey done to determine potential exposure levels in the immediate area. If necessary, the area will be controlled and properly posted until steps can be taken to affect any necessary repairs, or relocate the device to a storage area.

g) No personnel shall be permitted to return to the area without the approval of the RSO or designee. A list shall be maintained by the RSO of all entries.

h) If contamination is possible, the area of the accident shall be restricted. The RSO or designee shall approve any entries into the area and maintain a list of all entries. No attempt shall be made to open or examine contained materials or clean up any debris or material involved in the accident prior to the arrival of properly trained and equipped individuals.

i) RSO will notify the NDDEQ according to regulations.

For Radiological Emergency Assistance Contact:

Weekdays (0730-1700): 1.701.328.5188

All other Times (State Radio):1.800.472.2121

E. PROTECTION OF EMPLOYEES

1. The Radiation Safety Program at LOS fully supports the concept that all radiation doses should be "as low as reasonably achievable" (ALARA). This implies that no radiation dose should be acceptable if it can be avoided or is without benefit.

2. Deciding whether or not to accept the risk from radiation dose to the embryo/fetus is entirely the responsibility of the pregnant worker. It remains

the sole and fundamental responsibility of the female employee to decide whether to formally declare her pregnancy and consequently become subject to dose limits and restrictions.

a) The RSO and medical personnel shall ensure that the employee is fully informed and provided with counseling to assist in her decision following notification that she is pregnant.

b) A pregnancy may be declared by the pregnant employee or the employee who is planning a pregnancy, and shall be formally declared in writing. The declaration shall include the estimated date of conception and should be declared as early in the pregnancy as possible. A declared pregnant worker who is planning a pregnancy should notify her supervisor as soon as possible following verification of conception. The statement should be signed by the employee and delivered to her supervisor. (see Attachment 1)

c) An individual who has declared her pregnancy can withdraw her declaration and return to the public dose limit of 100mrem total effective dose equivalent in a year. The employee must submit to her supervisor a signed and dated statement of her withdrawal of the declaration of pregnancy. The employee shall be allowed to withdraw her declaration of pregnancy at any time thus terminating any work restrictions. (see Attachment 1)

d) The rights and privacy of the employee shall be maintained before, during and following any declaration of pregnancy.

e) Following submittal of a declaration of pregnancy, an evaluation of the dose equivalent that the embryo/fetus is likely to receive while the declared pregnant employee is performing her current job duties shall be performed to determine if monitoring and/or work restrictions are necessary. Examples of typical restrictions include the time allowed in radiological areas, restricting time spent in certain areas, restricting performance of certain tasks and requiring use of supplemental controls.

f) Any additional workplace restrictions for the declared pregnant employee shall remain in place until the baby is born, the declaration of pregnancy has been withdrawn or it is determined that such restrictions are not required to ensure compliance with 10 CFR 20.1208. Reporting

requirements are detailed in 10 CFR 20.2106.

3. Employees working near radiation producing equipment may request from the RSO a dosimeter to measure exposure to radiation.

F. PROGRAM AUDIT OR REVIEW

1. An annual audit report of Radiation Program activities for the year shall be completed by the RSO and submitted to the Plant Manager by the end of February of the following year.

2. Items to be Examined for Audit:

   a) Program Organization and Administration
   b) ALARA Program
   c) Internal Dosimetry Program
   d) Area Monitoring and Control
      (1) Instrument calibration and maintenance
      (2) Posting and Labeling
      (3) Sealed Radioactive Source Accountability and control
      (4) Emergency Exposure Situations
      (5) Records
      (6) Reports to Individuals
      (7) Radiation Safety Training

Attachment 1

LELAND OLDS STATION
DECLARATION OF PREGNANCY (9/14)

Name of Employee_____

Employee Number_____

Date of Conception (Mo/Yr) _____

By providing this information to my immediate supervisor, in writing, I am declaring myself to be pregnant as of the date shown above. Under the provisions of NDCC 33-10-04.1-06, I understand that my exposure will not be allowed to exceed 5 mSv (500 mrem) during my entire pregnancy from occupational exposure to radiation. I understand this limit includes exposure I have already received. If my estimated exposure since the above date to conception has already exceeded 5 mSv (500 mrem), I understand that I will be limited to no more than 0.5 mSv for the remainder of my pregnancy. If I should find out that I am not pregnant, or if my pregnancy is terminated, I will inform my supervisor, the Medical Department and the Radiation Safety Officer as soon as practical.

Signature of employee_____

Date Signed_____

RECEIPT OF DECLARATION OF PREGNANCY

Name of Supervisor _____

I have received notification from the above named woman that she is pregnant. I have requested the Radiation Safety Officer to explain to her the potential risks from exposure to radiation. The Radiation Safety Officer is to evaluate her prior exposure and establish appropriate limits to control the dose to the developing embryo/fetus in accordance with limits in NDCC 33-10-04.1-06. The RSO has explained to her options for reducing her exposure to as low as reasonably achievable (ALARA).

Signature of Supervisor _____ **Date**_____

Signature of RSO _____ **Date**_____

Attachment 2

Radioactive Material Package Receipt and Opening Procedure

Background
10 CFR 20.1906 outlines the requirements for opening packages containing radioactive materials. Other references: 10 CFR 71 and 49 CFR 172 and 173 Subpart I.

Precautions
All Type A packages which are received bearing White I, Yellow II, or Yellow III labels must be monitored for surface contamination within 3 hours of the start of the next working day if received after normal working hours [10 CFR 20.1906(c)]. Type A packages with evidence of damage must also be monitored to determine external radiation levels [10 CFR 20.1906(b)(3)]. Excepted (unlabeled) packages do not require any monitoring unless damages, in which case monitoring for external surface contamination and external dose rates is required.

Procedure

1. Put on gloves to prevent contamination. Always assume that the package and material inside are contaminated until proven otherwise.
2. Visually inspect the package for evidence of potential contamination (crushed, wet, or damaged). If damage is noted, stop the procedure and notify the RSO or other knowledgeable person.
3. Perform battery and instrument check on survey meter.
4. Measure the dose rate from the package at 1 meter and at the package surface (required for Type B packages and those that are damaged, but not for others). If it is higher than expected, stop and notify the RSO. The expected dose rate in mrem/hr at one meter should be close to the "transportation index" value as noted on the package [49 CFR 173.403]. The expected maximum dose rates at the surface of the package are listed below [49 CFR 172.403(c)]:

Label Type	Maximum Surface Reading (mSv/hr)	Maximum Surface Reading (mrem/hr)
White I	0.005	0.5
Yellow II	0.005 to 0.5	0.5 to 50
Yellow III	0.5 to 2	50 to 200

The final delivery carrier and the NRC Operations Center (301-816-5100) or the appropriate Agreement State Agency must be immediately notified by telephone [10 CFR 20.0906(d)] if external radiation levels exceed limits specified in 10 CFR 71.47.

5. Wipe at least 300 cm^2 of the exterior of the package and analyze the wipe. The final delivery carrier and the NRC Operations Center (301-816-5100) or the appropriate Agreement State Agency must be immediately notified by telephone [10 CFR 20.0906(d)] if removable surface contamination levels exceed the limits specified in 49 CFR 173.443.
6. Record the results of the external radiation (if applicable) and removable contamination surveys (if applicable) on the Receiving and Inspection of Radioactive Devices form (see Attachment 5).
7. Remove the packing slip.
8. Open the outer package following the supplier's instructions, if provided.
9. Open the inner package and verify that the contents agree with the packing slip.
10. Check the integrity of the final source container if not a gas or special form material. Look for broken seals or vials, loss of liquid, condensation, or discoloration of packing material. If anything unusual is found, stop and notify the RSO. Take appropriate precautions to prevent the spread of contamination. Notify the user of the material of any contamination found.
11. Check the use request to ensure that the material received is the material that was ordered.
12. Monitor the packing material and empty packages for contamination with a radiation detection survey instrument prior to discarding. If it is contaminated, treat it as radioactive waste.

Attachment 3

Personnel Responsible for Overall Radiation Safety at LOS

The Radiation Safety Officer is currently Casey Mutzenberger. If you have questions or concerns regarding radiation exposure, determining your actual exposure, and other questions regarding radiation at LOS, please contact Casey Mutzenberger or Matt Middlemas at the numbers listed below.

Casey Mutzenberger **LOS Environmental Coordinator**	**701-745-7271 (Work)** **701-400-7751 (Cell)** **701-873-4315 (Home)**
Matt Middlemas **LOS Safety Coordinator**	**701-745-7202 (Work)** **307-331-7470 (Cell)**
Jeff Hansen **Alternate HQ Radiation Contact**	**701-551-5654 (Work)** **701-955-5759 (Cell)**

LELAND OLDS STATION SAFETY PROCEDURE			
Procedure No. LOS-SAF-39	**Revision No.** 2	**Page** 1	**of** 10
Affected Department (s): ALL		**Originating Department** Safety	
		Final Approval /s/ Jason Cowan	**Date** 07/31/2023
Subject PERSONAL PROTECTIVE EQUIPMENT			

I. PURPOSE AND SCOPE

A. To establish personal protective equipment requirements for the plant site in order to protect employees, contractors, vendors, and visitors by reducing the probability of injuries from hazards that are not controllable at the source.

B. This procedure sets minimum standards and will be supplemented by other procedures, as required by local conditions or special situations.

III. Roles & Responsibilities

A. Safety Coordinator is responsible for ensuring personal protective equipment (PPE) is evaluated for hazard mitigation and is made available.

B. Supervisors are responsible for ensuring all employees and contractor working within their areas of responsibility have evaluated the hazards, selected adequate PPE based on the hazards, and enforce the use of PPE.

C. Procurement is responsible for stocking, re-ordering, and maintaining adequate inventory of PPE for employees. Procurement will work with the Safety Coordinator to ensure contractors are aware of the AVS PPE Requirements.

D. Employees
1. All employees are required to comply with this procedure.
2. Determine appropriate PPE selection for task.
3. Use PPE that is appropriate for the task and hazards being performed and as specified by the JSA or pre-job briefing.
4. Maintain and use PPE as specified by the manufacturer and as presented during training they have received on PPE use and care.

E. Contractor Leadership and Contractor Employees
1. All contractors are required to comply with this standard.
2. Conduct appropriate hazard analysis and provide their employees with PPE that meets the requirements of this standard.

PROCEDURE

A. Personal protective equipment requirements are for all operations and plant locations. Where specific activities or hazards are not defined, this procedure will be used as a guide in determining the personal protective equipment (PPE) required. PPE shall be worn in required areas at the beginning and during each scheduled work shift/day.

Eye And Face Protection

1. Safety glasses with side shields (meeting ANSI Z87.1 standards) are required in all areas of the plant site excluding the administration building, offices, control rooms, and logic rooms.

   Goggles shall be worn when employees are engaged in or are close to work involving the following procedures:

   a) Whenever the product Safety Data Sheet (SDS) recommends its use.

   b) For high wind protection.

3. Face shields shall only be used over primary eye protection such as safety glasses or goggles.

   a) To ensure proper coverage, the face shield shall have a minimum width of 18 inches and a minimum height of 8 inches.
   b) In the presence of flying particles or objects and hazardous materials that may splash, spray, drip, or become airborne as mist.
   c) Whenever overhead cutting, sanding, scraping, painting, or similar operations are being performed that could cause particles to fall and get into their eyes.
   d) Face shields are required when grinding, chain sawing or performing a job prone to creating flying chips and particles or spray of hazardous material. Face shields are required when hose-washing a hazardous material or operating a hydro-blasting lance.
   e) Whenever performing a Line Breaking or Line Penetration
   f) A face shield is not to be used a substitute for eye protection such as chemical goggles, dust goggles, or safety glasses. Safety glasses are always required when wearing a face shield.
   g) A full-face piece respirator can be worn in lieu of face shield when the possibility of inhalation exposures also exists.

4. Face Shields and welding helmets shall only be used over primary eye protection such as safety glasses or goggles.

5. Welding- each employee shall use equipment with filter lenses that have a shade number appropriate for the work being performed for protection from hazardous light radiation. Reference Attachment 2, for a listing of appropriate shade numbers for various operations.

   a) Welding hoods with properly shaded lens and safety glasses are required when operating welding equipment, assisting or observing welding operations.

6. Visitors outside of established tour areas will be provided with proper eye protection for their use.

D. Head Protection

1. Hard hats (meeting ANSI-Z89.1 standard for a Type 1, Class E rating) shall be worn in areas where there is a potential for injury to the head from bumping into fixed objects, equipment, piping, or from falling objects.

   a) Hard hats will be worn on the plant site except for limited exceptions in administration building, offices, control rooms, I&C shop, logic rooms, laboratory, and parking lot areas. Hard hats are required in shop areas when operating overhead cranes and hoists or where overhead hazards exist. Hard hats are required in warehouse areas where overhead storage racks create a hazard potential.

b) Hard hats will be worn by employees working near exposed electrical conductors that could contact the head.

c) Hard hats, goggle retainers, cold weather attachments, and chinstraps are available from the warehouse. Specialized head protection such as welding helmets and sandblasting hoods will be furnished as needed and will be obtained from the warehouse with supervisor approval.

d) When working around or exposed to rotating tools and moving equipment parts, employees shall protect long hair by tying and tucking it up under their hard hats to prevent it from becoming entangled.

e) Visitors will be provided and required to wear hardhats in all designated areas.

f) The hard hat shall be replaced whenever cracks or dents appear, and on a 5 year cycle.

g) The suspension shall be replaced every 5 years or whenever straps become frayed, brittle or weakened.

h) The suspension must not be altered or turned around, as this negates the design and protection factors of the hard hat, and it would not provide proper protection during off-center or top impacts.

i) Hard hats shall be worn with the brim facing forward unless it is stamped with ANSI Z89.1 standard marking (reverse donning arrow) and follows the manufacturer recommendation (Reference Attachment 4).

j) Only specially designed liners/cold weather protection for warm or cold climates shall be worn under hard hats. Wearing hats, caps, or other head gear can reduce the effectiveness of the hard hat.

E. Foot Protection – Safety Shoes or Boots

1. Employees shall wear protective footwear meeting ANSI-Z41.1 or ASTM F2412, 2413 standards when working in areas where there is a danger of foot injuries due to falling and rolling objects, or objects piercing the sole.
2. Safety shoes or boots meeting ANSI-Z41.1 standards are required while working in all plant operating areas, shops, laboratory and warehouse areas, with limited exceptions in administrative areas, boiler & scrubber control rooms, and adjoining logic rooms.

F. Hearing Protection

1. Hearing protection will be worn when the job or environment warrants its' use. Noise surveys have been conducted onsite and should be referenced when necessary.
   a) Hearing protection is required in all posted areas and buildings having high noise levels.
   b) Employees performing work or using tools that produce high noise levels (e.g., grinding, impact wrenches, hammering, air arcing, sandblasting, chain saws, etc.) are required to wear hearing protection.

G. Personal Clothing, Body Respiratory, and Skin Protection

1. Employees must wear clothing of natural fibers construction (i.e., cotton, wool, silk, etc.). Personnel must not wear clothing (synthetic fibers, undergarments with logos, etc.) that could increase the extent of an injury if exposed to flames, flash fires, or electric arcs.
2. Tank tops, cut off T-shirts or sleeveless shirts, shorts and cutoff pants are prohibited. Clothing will be worn in a proper manner, which is appropriate to the duties performed and conditions encountered.
3. All electricians, electrical supervisor and electrical engineer(s) while on site, shall wear Category 2 FR clothing (meeting NFPA 2112 standard) with long sleeves, a leather or natural fiber belt or suspenders (if applicable), no more than one button

open at the top of the shirt, sleeves down, tucked in, and buttoned when not in offices or break areas. Employees must follow manufacturer recommendations.

H. Hand Protection

1. Employees shall wear appropriate hand protection when hands are exposed to hazards such as those from skin absorption of harmful substances, severe cuts or lacerations, severe abrasions, punctures, chemical burns, thermal burns, harmful temperature extremes, and material handling.

Fall Protection

1. Specific guidelines for fall protection in general will be found in the CO-OP safety program SAF210 Fall Protection Program on Inside Basin.
2. Fall Protection must be used when on a walk-working surface with an unprotected side or edge that 4 feet (1.2 m) or more above a lower level.
3. A full body harness with a center D ring is required for a fall arrest system.
4. Safety belts are prohibited from use in fall arrest.
5. All employees who are off the ground and not on a ladder must be protected from falls. Fall protection can be accomplished by: wearing a fall arrest system, being on an approved platform with all safety guardrails/mid-rails, and toe boards in place, wearing a travel restraint system, wearing a work positioning system, ladder cages, or vertical ladder fall protection system.

J. Walking-Working Surface

1. Ice and snow traction devices are required to be used by all employees and contractors when working and walking surfaces are impact by snow/ice. All equipment can be found in the warehouse.

L. Exceptions

1. Hard hats may be removed for short periods of time when a person must work in very tight quarters. The hard hat must be replaced immediately upon withdrawing from such work areas. Some examples of permissible hard hat removal are:
   a) Working on a vehicle suspension within a wheel well.
   b) Working within electrical cabinets that are not energized.
   c) Inspecting the internal windings of electric motors that are not energized.
2. Safety glasses and hard hats are not required when in the enclosed cab of a passenger car, pickup, bus, forklift, skid steers, or crane.
3. All personnel will be required to wear hard hats, safety glasses, and safety footwear to their immediate work area(s) prior to beginning and following the completion of their work shift (Reference Attachment 3, for specific areas not required to wear PPE Exception is coal and yard employees may drive across the site to their work area.
4. Contact lenses may be worn without safety glasses by office or secretarial employees working in administration, office and control room areas.

ATTACHMENT – 3

Attachment 4

MEL SAFETY INSTITUTE SHIFT BRIEFING

Understanding Hard Hat Labeling

According to OSHA, hard hats are must be when working in areas where there is a potential for injury to the head from falling objects or when working near exposed electrical components that may contact the head. Hard hats may also be beneficial when there is a potential for being struck by moving equipment and can also add a measure of visibility for the worker on a job site.

All hard hats must comply with ANSI Z89.1 *Protective Headwear for Industrial Workers Requirements* which is referenced into the OSHA Standard. Hard hats are comprised of an outer shell and a suspension system designed to help absorb and dissipate the force of impact while keeping a clearance between the head and the shell.

There are 2 Types and 3 Classes of hard hats:

Type 1 – Helmets intended to reduce the force of impact resulting from a blow only to the top of the head

Type 2 – Helmets intended to reduce the force of impact from a blow to the top or side of the head.

Class E – Helmets which offer the highest electrical protection (up to 20,000 volts) and protect against impact from falling objects.

Class G – Helmets which offer electrical protection up to 2,200 volts and provide impact protection from falling objects.

Class C – These lightweight helmets are not tested for electrical resistance and offer limited impact protection. These are often referred to as bump caps.

ANSI Z89.1-20014 approved helmets may have additional markings depending on manufacturer testing:

Reverse donning: Hard hats marked with a "reverse donning arrow" can be worn frontward or backward in accordance with the manufacturer's wearing instructions. They pass all hard hat protection requirements, whether worn frontward or backward.

LT & HT - Extreme temperatures: Hard hats marked with "LT" indicate that the hard hat meets testing requirements of the standard when exposed to temperatures down to -22°F. Helmets marked with "HT" indicate that the hard hat meets protective requirements when exposed to temperatures up to 140°F.

HV - High visibility – Hard hats marked with an "HV" indicate that the hard hat meets the requirements of the standard for high visibility colors.

Do not make modifications to your hard hat. That includes painting it. Solvents in many paints may denigrate the plastic shell and may hide defects or damage during pre-use inspections. Stickers are **[SELECT PER YOUR POLICY: permitted as long as they do not prevent effective pre-use inspections OR not-permitted]**.

Only use add-ons such as liners or chin straps approved by the manufacturer.

Reviewed 5/20/2008
Revised 6/8/21

PROCEDURES & PRACTICES
Leland Olds Division—Leland Olds Station
LOS-SAF-30
RESPIRATORY PROTECTION PROGRAM

I. INTRODUCTION

A. Wherever there is a possibility that employees may be exposed to occupational dusts, fumes, mists, fibers, radionuclides, gas, or vapors, federal regulations (29 CFR 1910.134) require the establishment of a written program outlining respiratory protection procedures. The purpose of this program is to reduce or prevent employee exposure to respiratory contaminants.

B. Where feasible, exposure to contaminants will be eliminated by engineering or administrative controls, e.g., general and local ventilation, enclosure or isolation, substitution of a less hazardous process or material, and limiting exposure. When effective engineering and administrative controls are not feasible, the use of personal respiratory protective equipment may be required to achieve this goal.

II. RESPIRATOR USAGE

A. There are areas at Leland Olds Station where dusts, vapors, fumes, mists, fibers, gases, or radionuclides in the air may require the use of a respirator. The rail unloading facility has occasional excursions of carbon monoxide above the Permissible Exposure Limit (PEL). Monitoring is an ongoing process and these areas may require a respirator. Respirators are provided for use by employees and can be obtained from the warehouse. **It is recommended that they be used where ventilation cannot disperse dusts, vapors, fumes, mists, fibers, gases, or radionuclides and when recommended by Safety Data Sheets.**

1. The following jobs at Leland Olds Station have been designated as jobs where respiratory protection usage is highly recommended:

    a. Emptying pyrites in the Unit 1 basement. (R95 or Air-purifying with 3M 2296 P-100)

The following jobs at Leland Olds Station have been designated as jobs **where use of respiratory protection is required to be used or carried:**
Any area where coal dust levels are present. This includes, but not limited to, coal handling areas where the potential for dusting exists at such locations like transfer/conveying stations or impact areas. Also where dust can be seen in the air and/or vision is impeded. Half-faced with HEPA filters suggested to be used.

b. Any areas where fly ash exists, a half-faced respirator at a minimum should be in possession and ready for use if conditions warrant.

c. Removal or repair of asbestos and asbestos-containing materials including:

(1) Inspection of ACM.
(2) Sampling of ACM.
(3) Exposure testing.
(4) Asbestos monitoring.

d. Sandblasting requires the use of a sandblasting hood and a breathing air supply to the hood. There are two breathing air compressors available at LOS.

e. Spray painting except for using cans of spray paint unless in a confined area.

f. Working inside precipitators during outages where dust is present. This requires the use of a full-face respirator with the use of HEPA filters.

g. Working with lead-based paint or other lead-containing material when wet methods are not feasible. This requires a half mask with HEPA filters.

2. There is carbon monoxide present in the rail unloading facility lower level and in the lowering well when coal is being moved. The LOS Carbon Monoxide Monitoring Procedure will be used when entering these areas. ***There are no respirator cartridges that protect against carbon monoxide (CO).***

B. Each plant employee that may use a respirator will be issued one for his/her personal use.

III. BEARDS, SIDEBURNS, MUSTACHES, AND OTHER FACIAL HAIR

A. In accordance with 29 CFR 1910.134 and 29 CFR 1910.1001, beards, mustaches, sideburns, and other facial hair in the respirator seal areas is not permitted. An unshaven condition to the extent of heavy stubble or a single, full day's growth is prohibited.

B. ***Job positions and classifications within Leland Olds Division that may require respirator use are listed in Appendix B.*** Employees in the positions or classifications listed ***should be prepared at any time*** by reporting to each scheduled work day ***clean-shaven in the facial area*** of the respirator seal. (Also see Appendix D)

C. Headpieces, band-aids, goggle straps, bows of glasses, or other items are not permitted beneath the sealing surface of a respirator.

D. Short mustaches, soul patch and sideburns that are trimmed so that no hair underlies the seal of the respirator are permitted. (See Appendix D)

IV. CONTRACTORS

A. Contractors performing work at LOS are expected to provide their own respiratory protection, both air purifying and air supplied as necessary. Respiratory protection shall be worn as the job dictates.

B. Contractors are expected to understand the respiratory protection requirements for products and processes they typically use and are expected to utilize such protection as appropriate. Contractors using chemical products, such as paints, sealants, solvents, coatings, resins and cleaning supplies, are required to wear respiratory protection where levels may be expected to exceed the OSHA permissible exposure limit.

C. Contractors shall inform the LOS Contract Field Coordinator if they believe the service performed or products used by the contractor will create respiratory hazards for LOS personnel. SDS for those products must be provided to the LOS Maintenance Planner.

LELAND OLDS STATION

GENERAL CONTRACTORS ORIENTATION CHECKLIST

Company Name:			
Company onsite Safety Contact:			
LOS Site Contact:			
Date of Checklist Completion:			
	YES	**NO**	**Initials**
LOS Contractor Instruction Packet			
1. Received Packet prior to beginning work or on an annual basis			
LOS Job Site Rules/Expectations			
1. Reviewed and understand rules/expectations with employees			
LOS Emergency Action Procedures			
1. Reviewed Emergency Action Procedure in contractor instruction packet with employees			
2. Have understanding where Shift Supervisor office is located			
3. Have understanding how to contact shift supervisor for any emergency			
4. Understand the evacuation and storm shelter procedures			
5. Understand identifying fire extinguishers, Gai-tronics, safety shower/eyewash			
LOS Alimak Elevator			
1. Reviewed LOS Alimak elevator procedure with employees			
2. Understand all sections and of the LOS Alimak procedure			
LOS Belt Manlift			
1. Reviewed with employees and understand LOS belt manlift procedure in contractor instruction packet			
LOS Clearance (LOTO)			
1. Reviewed tagging/clearance program in contractor packet with employees			
2. Understand the need to verify boundaries when signing on to a clearance			
3. Understand all LOTO concerns go through LOS Shift Supervisor			
LOS Confined Space			
1. Reviewed with employees and understand confined space requirements found in contractor instruction packet			
2. Understand all confined space concerns go through shift supervisor			
LOS Hot Work			
1. Reviewed procedure in contractor instruction packet with all employees			
2. Understand the need to communicate all hot work with shift supervisor			
3. Understand the need to provide fire protection for hot work			
LOS Dropped Objects Prevention Plan			
1. Reviewed and understand the requirements of the prevention program			
LOS Barricade Tape			
4. Reviewed procedure in contractor instruction packet with all employees			
5. Understand the need to communicate all barricade requests with shift supervisor			
LOS Radiation Program			
6. Reviewed procedure in contractor instruction packet with all employees			
LOS Personal Protective Equipment			
7. Reviewed procedure in contractor instruction packet with all employees			
8. Understand the need wear all required PPE in LOS plant areas			
LOS Respiratory Protection			
9. Reviewed procedure in contractor instruction packet with all employees			
10. Understand the need to be clean shaven for all Class A contractors every shift			