



ANTELOPE VALLEY STATION SAFETY PROCEDURE

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Affected Department (s): ALL	Originating Department Safety		
	Final Approval /s/ John W. Jacobs		Date 11/18/13
Subject CLEARANCE AND TAGGING			

I. PURPOSE AND SCOPE

A. Purpose:

- 1) To protect individuals working on equipment from the unexpected release of energy.
- 2) To establish positive controls to prevent the unexpected release of energy sources or the startup of equipment.

B. Scope:

- 1) To provide protection for personnel and establish positive controls to prevent the unexpected release of electrical and/or other energy sources or the starting of equipment. Additional safeguards may be added by the operating authority or supervision at any time.
- 2) This procedure applies to the servicing, maintenance or alterations of machines and equipment in which the unexpected energization or startup of the machine or equipment, or release of stored energy, product or material could cause injury to personnel. This procedure applies to activities such as: erecting, installing, constructing, repairing, adjusting, inspecting, cleaning, testing, operating or maintaining equipment.
- 3) This program establishes minimum requirements for periodic inspections which ensure that the program is being followed and minimum requirements for employee training.

II. DEFINITIONS

- A. Affected Employee: An individual whose job requires him/her to operate or use a machine or equipment on which servicing or maintenance is being performed under lockout or tagout, or whose job requires him/her to work in an area in which such servicing or maintenance is being performed.
- B. Boundaries: Includes all isolation points within a Clearance.



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- C. Capable of Being Locked Out: An energy isolating device is capable of being locked out if it has a hasp or other means of attachment to which, or through which, a lock can be affixed, or it has a locking mechanism built into it. Other energy isolating devices are capable of being locked out, if lockout can be achieved without the need to dismantle, rebuild, or replace the energy isolating device or permanently alter its energy control capability.
- D. Clearance: The process used to isolate energy sources.
- E. Energized: Connected to an energy source or containing residual or stored energy.
- F. 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.
- G. Energy Isolation Verification: Ensuring that the energy control procedure has effectively isolated the machine or equipment. This includes ensuring that the machine or equipment has been shut down properly; required energy isolating devices are identified, located, and operated; that the lockout device has been attached to energy isolating devices and that stored energy has been released, discharged and rendered safe.
- H. Energy Source: Any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other energy.
- I. Green Restricted Use Clearance Tag: (White tag with a green border.) Standard printed tags, which are attached to energy sources and other operating devices to denote that the device shall not be operated by anyone other than the person given exclusive operating control of that piece of equipment by the Operating Authority.
- J. Lockout: The placement of a lockout device on an energy isolating device, in accordance with an established procedure, ensuring that the energy isolating device and the equipment being controlled cannot be operated until the lockout device is removed.



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- K. 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.
- L. Equipment/Area Inspection: Inspection of a work area to ensure that all personnel and nonessential items (e.g. tools, spare parts) have been removed to a safe location and that all of the machine or equipment components are operationally intact.
- M. Normal Production Operations: The utilization of a machine or equipment to perform its intended production function.
- N. Operating Authority: Individual(s) as designated by supervisory authority, designated to issue clearance and establish appropriate boundaries.
- O. Qualified Employee: An individual who is authorized by the facility to request a clearance to work on a job and receives protection for that job. The individual has knowledge of the Clearance Program, applicable facility procedures and in the construction and operation of the equipment involved, along with the associated hazards.
- P. Qualified Operator: An individual who has been authorized by the Operating Authority to isolate equipment or system(s) by installing and removing locks and tags. The individual has knowledge of the Clearance Program, facility procedures and in the construction and operation of the equipment involved, along with the associated hazards.
- Q. Red Clearance Tag (Danger – Do Not Operate Tag): (White tag with a red border.) Issued to permit work on electrical and mechanical equipment which has been de-energized or rendered inoperative by means of operation being blocked.
- R. 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.
- S. Tagout: The placement of a tagout device on an energy isolating device, in accordance with an established procedure, to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed.



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- T. Tagout Device: A prominent warning device, such as a tag and a means of attachment, which can be securely fastened to an energy isolating device in accordance with an established procedure, to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed.
- U. Test: An energization process performed to determine equipment functionality.
- V. Supervisory Authority: The facility Manager, or the designee, is the “Supervisory Authority” of this program and administers manning the installation, maintenance and the operations of the procedure. This person may delegate this authority if necessary.
- W. Work Group: Employees authorized to work under a Clearance with a work group representative being the only one signed on the Clearance Sign-On sheet.

III. RESPONSIBILITIES:

- A. Safety Coordinator:
 - 1) Ensuring periodic inspections are conducted.
 - 2) Ensuring initial and annual training is completed.
 - 3) Maintaining training records.
- B. Supervisory Authority:
 - 1) Enforcing the program and disciplinary actions regarding violations of the program.
- C. Operating Authority:
 - 1) Establishing the boundaries.
 - 2) Issuing clearances.
 - 3) Designating Qualified Operators.
 - 4) Informing the Qualified Employee requesting a clearance of the protection boundaries and whether or not the equipment is safe to commence work.
 - 5) Answering questions regarding clearance boundaries and assisting personnel in locating “Danger Do Not Operate” tags.
- D. Supervisors:
 - 1) Verifying training is to be complete.
 - 2) Enforcing the program and disciplinary actions regarding violations of the program.
 - 3) Ensuring employees obtain adequate clearances to perform work.
 - 4) Releasing clearance in the absence of a Qualified Employee.



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E. Qualified Operators:

- 1) Placing energy isolating devices in a position to establish safe boundaries for requested work.
- 2) Verifying isolation.
- 3) Installing and Removing lockout/tagout device.

F. Work Group Representatives & Qualified Employee:

- 1) Following the Clearance Guidelines and Procedures.
- 2) Requesting clearance.
- 3) Representing the Work Group when signing on to a clearance.
- 4) Verifying placement of "Danger Do Not Operate" Tags and Locks.
- 5) Proper placement of Crew Verification Tag and signing on/off of tag.
- 6) Post job cleanup.

G. Contractors:

- 1) Designating and training qualified employees
- 2) Account for all personnel working under clearance either through crew verification or similar roster.
- 3) Ensuring the safety of their employees.
- 4) Verifying placement of "Danger Do Not Operate" Tags and Locks.

IV. PROCEDURES:

A. Lock and Tagging Procedures:

- 1) A request is made for a clearance to perform work.
- 2) A clearance isolation list is developed, identifying appropriate boundaries and positions. The Operating Authority will initial the "issued-by" section of the clearance.
- 3) Equipment is prepared for isolation.
- 4) The Operating Authority provides the Qualified Operator with a key from the key cabinet for the associated lock set number identified on the clearance. Appendix A list lock set # and quantity.
- 5) Equipment is deenergized, isolated and lock(s)/tag(s) are placed and verified by the Qualified Operator. The Qualified Operator will initial the "placed-by" section. **Note: The Qualified Operator must place a multiple locking hasp at the crew verification tag location.**
- 6) The Qualified Operator provides the Operating Authority with associated key which is placed back in the lockable cabinet.



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- 7) The Operating Authority locks the cabinet.
- 8) A Work Group Representative will verify the tag location and position of isolated equipment, sign onto the clearance and obtain a crew verification tag. *Note: Verifying placement of "Danger Do Not Operate" tags and locks each time personnel sign onto the clearance form is required.*
- 9) The crew verification tag must be filled out and placed by the Work Group Representative at the specified location designated on the clearance (highlighted). **An optional lock is recommended at the crew tag location.** Qualified Employees may choose to place personal locks on any other isolating devices provided the device is within clearance boundaries.
- 10) When the job is complete Qualified Employees must perform a thorough post job clean-up. The Work Group Representative must bring back the crew verification tag with all employees signed off, notify Operating Authority of return to service status and sign off the clearance.
- 11) The operating authority, will obtain confirmation from the Work Group Representative of the completion of the job. The clearance form will be checked to verify that all individuals have signed off, and the designated location checked to verify the removal of the crew verification tag(s) prior to the removal of "Danger Do Not Operate" tags.
- 12) The Operating Authority will provide the Qualified Operator with the associated key.
- 13) The Qualified Operator will remove all lock(s)/tag(s) and return key to the Operating Authority.
- 14) Following the removal of "Danger Do Not Operate" tags, the Qualified Operator will note that all tags have been removed by initialing the "Removed By" column on the clearance form.

B. Releasing Protection:

- 1) When the job is completed, signed on personnel will remove their crew verification tag(s), optional lock(s) and present the crew verification tag to the operating authority when signing off the clearance form. Personnel hanging crew verification tag(s) are responsible for having each listed crew member sign off the tag at the designated location. In the case of an absent employee, a signature of a work group supervisor will be obtained before the crew verification tag is removed. Reference section L.



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Releasing a Clearance in the Absence of the Qualified Employee, for further instructions.

- 2) Individuals signing off the clearance are responsible for the removal of all grounds and safety measures, which are not included in the tagging procedure.
- 3) Upon completion of the job, personnel releasing clearance protection will notify the operating authority of the status of the equipment and if it is available for service. If the equipment is NOT available for service, one crew member or the work group supervisor will sign on to the clearance form, until such time that the equipment or system is available for service.
- 4) The operating authority, will obtain confirmation from work crew personnel of the completion of the job. Prior to the removal of "Danger Do Not Operate" tags and locks, the clearance form will be checked to verify that all individuals have signed off and the designated location checked to verify the removal of crew verification tag(s).
- 5) Prior to startup, the equipment, and or system will be walked down and checked to ensure it is ready for operation by the Qualified Operator.

C. Verification of Energy Isolation:

- 1) The Operating Authority must establish that all energy has been properly controlled through appropriate energy isolation verification prior to commencing work.
- 2) Energy verification must be performed. In some cases, verification may involve a deliberate attempt to start up the machine or equipment which should not be capable of energization or activation due to the application of energy isolating devices. Other appropriate means of hazardous energy verification may include visual inspection techniques (e.g., visually checking that safety blocks are in place in accordance with the energy control procedure; visually checking a pipe "sight glass" for absence of fluid, or checking for the presence of air gap on a breaker) or testing the machine or equipment with an appropriate test instrument (e.g., voltmeter, combustible gas/oxygen indicator.)

D. Local Controls, Selector Switches, and Vents:

- 1) Local controls, push buttons, selector switches, vents, drains and similar components are not considered immediate energy sources for which isolation devices are necessary. The Operating Authority at his/her discretion may place a "Danger Do Not Operate" tag on these



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components for awareness purposes. Locks will not be required at these locations.

E. Crew Verification Tags:

- 1) Crew Verification tag (Attachment 2) – red and white tag used by personnel to tag a location noted by the operating authority on the clearance form that has been previously tagged with “Danger Do Not Operate” tag. The Crew Verification tag provides an accounting/warning to others that personnel are working under clearance protection and serves as a secondary check prior to the start up of the equipment.
- 2) The Operating Authority must designate the location where the crew verification tag is required to be placed. One designated location will be noted on the clearance form highlighting the tag number and location. It is recommended that the operating authority consider the highest energy source when designating the location.
- 3) The Work Group Representative signing onto the clearance must fill out the crew verification tag noting the date, their name, clearance form no., equipment or system name, designated location where the tag is required to be placed and verification of identified isolation points.
- 4) The Work Group Representative must verify and list all immediate energy isolation points on the crew tag. Otherwise employee must note that “All Tags” have been verified. This verification process applies to any boundary change.
- 5) Affixing the filled out crew verification tag to the location designated by the operating authority:
 - a. Individual crewmembers are required to sign onto the crew verification tag once it has been placed at the designated location. Personnel joining a work crew must sign onto the crew verification tag prior to commencing work. Employees performing the servicing and/or maintenance signs onto the crew tag if they fully comprehend the job hazards and hazard control measures.
 - b. Personnel (Crewmembers) signing onto a crew verification tag must be of the same craft, shift and performing the same job (same work order number and/or nature of work) as the person or crewmember signing onto the clearance form. Permission will be obtained from the Work Group Representative signed onto the clearance form prior to personnel signing onto the crew verification tag.



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- c. The crew verification tag must be signed off by all crewmembers, removed and returned to the operating authority before clearance may be signed off.
- 6) Only trained and authorized employees are permitted to hang crew verification tag(s) and lock(s) inside high voltage cabinets. Personnel that are not authorized to enter high voltage cabinets will request assistance from operations. Personnel requesting assistance will provide an optional lock to operations and witness their placement inside high voltage cabinets.

F. Testing Equipment:

- 1) All testing of equipment or systems will be performed only after the clearance has been released. Applicable "Danger Do Not Operate" tags and locks will be removed and the test performed. Following the test, the tag(s) may be placed back on the equipment.
- 2) Personnel requesting continued protection must sign back onto the clearance form. Personnel signing back on to the clearance form will verify proper placement of "Danger Do Not Operate" tags and locks removed and re-hang their crew verification tag(s) at the designated location. This procedure may be repeated as many times as necessary until testing is satisfactorily completed.
- 3) Such testing will only be conducted when no other work is being performed by any personnel on the equipment being tested.
- 4) It is important that all remote start switches remain tagged by the operating authority to prevent inadvertent operation of the equipment during these periods.

G. Expanding Boundaries:

- 1) In the event that clearance boundaries need to be expanded, all personnel will be notified and the clearance form revised to reflect the new tag locations.
- 2) "Amend / Add" will then be inserted on the Clearance along with the purpose of the Amend and the number of isolation points added. Tags and locks will be hung to establish the new expanded boundaries.
- 3) All personnel signed onto the original clearance form must be notified of the placement of additional tags and any boundary changes prior to the implementation of the change. Personnel signed onto the revised clearance form will verify placement of new tags.

H. Restricting Boundaries:



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- 1) If a clearance boundary changes and requires the removal of existing boundary tags, personnel who have signed onto the clearance form and crew verification tag(s) must be advised of the requested change, concur that the change can be made without jeopardizing the safe boundary previously established and sign off the clearance.
- 2) Isolation points will then be removed and included on the Clearance along with the purpose of the change.
- 3) The appropriate “Danger Do Not Operate” tags can then be removed, to establish the new boundary. Personnel requesting to work on the equipment are then required to sign onto the revised or new clearance form and hang a crew verification tag.

I. Green Restricted Use Clearances:

- 1) Green Restricted Use Clearances shall be identified by the use of a Green Restricted Use tag, a personal lock and key are used when equipment such as air heaters, manlifts, overhead doors, cranes, traveling screens, etc. must be energized during maintenance activities. When a Green Restricted Use Clearance is issued by the Operating Authority, operations gives exclusive control of that piece of equipment to a Qualified Employee.
- 2) The following restrictions apply for use of Green Restricted Use Clearances:
 - a. A defined work scope, hazard assessment, and an isolation list must be developed and used for specific pieces of equipment if a Green Restricted Use Clearance is utilized.
 - b. If used within a confined space, the confined space must be permit required.
 - c. Red “Danger Do Not Operate” and green “Restricted Use” tags cannot be in use or issued on one piece of equipment simultaneously.
 - d. Only personal locks may be utilized.
- 3) General Procedures for Green Restricted Use Clearances include the following:
 - e. Develop work scope and hazard assessment.
 - f. Request Clearance to perform work.
 - g. An isolation list is developed, identifying isolation points.
 - h. A Qualified Employee is given exclusive control of that piece of equipment and signs on the Clearance.



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- i. Equipment locks/tags are placed.
- j. Once the job is complete, an Equipment/Area Inspection is performed.
- k. The Qualified Employee removes the locks/tags.
- l. The Qualified Employee signs off of the Clearance.
- m. Operating Authority verifies that locks and tags have been removed.
- n. Operating Authority releases the Clearance.

J. Work Continuing Beyond Shift Change:

- 1) If the equipment being worked on is not ready for operation and will be worked on by signed on personnel the next day, personnel may remain signed onto the clearance form.
- 2) If the equipment being worked on is not ready for operation, and second shift personnel will continue the work, a crewmember from the second shift will sign onto the clearance form.
- 3) New personnel signing onto the clearance form will verify proper placement of "Danger Do Not Operate" tags and affix a crew verification tag to the designated location.

K. Clearance Not Required:

- 1) When changing blades, bits, grinding wheels or other attachments on hand and portable tools, the power supply cord must be disconnected first to assure that accidental starts cannot occur.
- 2) Cord and plug connected electrical equipment are not required to be tagged provided the equipment is unplugged and the plug is under the exclusive control of the individual performing the servicing and/or maintenance.
- 3) Minor tool changes, adjustments, hooking up hoses, operating valves and other minor servicing activities that take place during normal operations do not require the equipment to be tagged out. However, these activities should be routine in nature, repetitive and integral to the use of equipment. These types of activities must be performed without the possibility of injury due to the unexpected energizing, startup, release of stored energy or movement of equipment parts.

L. Releasing a Clearance in the Absence of the Qualified Employee:

- 1) If personnel who have signed onto the clearance form are absent, a work group supervisor may be called upon to release the clearance and remove their crew verification tag(s) and placed lock(s). It is the supervisor's responsibility to verify and obtain confirmation from all work crew personnel of the completion of the job.



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- 2) When any doubt exists about the release of equipment for operation, the supervisor will call personnel at home to determine if the clearance can be released. If personnel cannot be reached, the on-duty operating authority and work group supervisor will verify that all tasks on the equipment or system have been completed and it is safe to place the equipment back into service. If both supervisors agree that it is safe, the work group supervisor will sign personnel off of the crew verification tag(s), remove the crew verification tag(s) and sign the personnel off of the clearance form.
- 3) Supervisors releasing the clearance assume full responsibility for the status and release of the equipment in question. Upon release of the clearance, the work group supervisor will issue a "Tagging Release Notification" (Attachment 1 – BEPC Form #780) to personnel they have signed off of the clearance form and all personnel that were signed off of the crew verification tag(s).

V. TRAINING:

- A. Training will be provided to all employees whose work may be regulated by this program. Understanding the responsibilities outlined above will be the primary objective of the training.
- B. Training may include but is not limited to potential hazards, clearance procedures, responsibilities and inspections.
- C. Training will be provided:
 - 1) Before the employee is first assigned duties covered by this program.
 - 2) Before there is a change in assigned duties.
 - 3) Whenever there is a change in Clearance operations that presents a hazard about which the employee has not previously been trained.
 - 4) Whenever there is a deviation from the work scope or there are inadequacies in the employee's knowledge.
- D. The training will establish employee proficiency in the duties required by this program and will introduce new or revised procedures as necessary for compliance with this program.
- E. Refresher training on this program will be conducted annually.
- F. Training documentation will include at a minimum the employee's name, employee number and the date of the training.



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VI. PERIODIC INSPECTIONS:

- 1) Inspections of this program and facility procedures shall be conducted at least annually.
- 2) Inspections shall be performed by employees other than the ones utilizing the clearance program or facility procedure at the time of the inspection.
- 3) Inspections are conducted to correct any deviations or inadequacies identified.
- 4) Inspections shall include a review between the individual performing the inspection, the Qualified Operator and the Qualified Employee of that employee's responsibilities under the clearance program or facility procedure.
- 5) Inspections shall identify the machine or equipment isolated, the date of the inspection, employees included in the inspection and the person performing the inspection.

VII. RECORD RETENTION:

- 1) Clearance Records, Clearance Inspection Records, and training records will be retained in accordance with the Cooperative Retention Schedule.
- 2) The operating authority will then file the clearance form and destroy the "Danger Do Not Operate" tags. Crew Verification tags will be maintained in a file for 30 days and then destroyed.

VIII. REFERENCES:

- 1) BEPC Cooperative Clearance Program SAF110
- 2) OSHA 29CFR 1910.147
- 3) OSHA 29CRF 1910.269



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IX. APPENDIX A

Lockset #	Quantity (per lock set)	Main Plant (Lockset #)	FGD (Lockset #)
1 – 150	5	1 – 100	101 – 150
151 – 300	10	151 – 250	251 – 300
301 – 400	20	301 – 370	371 – 400
401 – 450	30	401 – 435	436 – 450
451 – 460	50	451 – 457	458 – 460
461 – 464	80	461 – 463	464

Baghouse Compartment:

Lockset #	Quantity (Per Lock Set)
1A1 – 1A14	7
1B1 – 1B14	7
2A1 – 2B14	7
2B1 – 2B14	7

ATTACHMENT – 1



TAGGING RELEASE NOTIFICATION

Employee Name:

Tag Clearance No.:

Date Released:

Equipment Released:

I have released your clearance on the above equipment. Before performing any maintenance on the above equipment, you will have to go through the tagging procedure again and have the equipment retagged.

NOTE: The clearance on the above equipment has been released!

Released By:

BEPC 00780 9/90

WHITE - Employee CANARY - File Copy PINK - Supervisor

