



Dryden Flight Research Center  
Edwards, California 93523

**DCP-S-062, Baseline-1**  
**Expires September 10, 2015**

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# **Dryden Centerwide Procedure**

## **Code S**

# **Lockout / Tagout Program**

Electronically approved by  
Associate Director for Management Systems

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## 1.0 PURPOSE OF DOCUMENT

This document describes procedures, delegates authority, and assigns responsibility for managing the Dryden Flight Research Center (DFRC) lockout / tagout program.

## 2.0 PROCEDURE SCOPE & APPLICABILITY

**Scope:** This procedure principally applies to non-aircraft lockout / tagout activity.

This procedure provides the minimum implementation requirements needed to control occupational injuries and illnesses resulting from the installation, service, or maintenance of equipment that use or contain a hazardous energy source and their administrative controls. These sources include:

- A. Electrical – Equipment or machines using electrical energy at or above 50 volts.
- B. Mechanical – Mechanical energy sources such as springs, flywheels, or rotating parts that if not locked and blocked out, can cause bodily injury or equipment damage
- C. Compressed air
- D. Hydraulic systems
- E. Chemical sources – Any toxic, corrosive, flammable, or explosive material in a solid, dust, liquid, vapor, or gaseous state that has the potential to cause injury to an unprotected employee
- F. Gas and fluids – When under pressure or that meet the Chemical Sources definition above.
- G. Thermal energy – Any source of conductive, convective, or radiant thermal energy with the potential of causing injury
- H. Radiation – Any source of ionizing or non-ionizing radiation that has the potential of causing injury.

**Applicability:** This procedure applies to all personnel and organizations that conduct or supervise lockout and/or tagout and administrative locking and/or tagging operations and to on-site support contractors, grant recipients, and other partners to the extent specified in their contracts or agreements.

### 3.0 PROCEDURE OBJECTIVES, TARGETS, METRICS, & TREND ANALYSIS

**Objective:** Identify, eliminate, and control potential hazards when servicing or conducting maintenance on machines or equipment where unexpected start up or the release of stored energy or chemicals could cause injury to employees.

**Target:** Zero personnel injuries and/or equipment or property damage

**Metric:** Number of incidents of personnel injury and/or equipment or property damage

**Objective:** Identify, and correct or eliminate deviations or deficiencies and safety concerns in lockout / tagout procedures through annual inspections in this procedure.

**Target:** Zero personnel injuries and/or equipment or property damage caused by deviation from or deficiencies in LOTO procedures.

**Metric:** Results of annual inspections.

**Trend Analysis:** Metrics will be analyzed to determine whether procedural objectives have been met.

### 4.0 WAIVER AUTHORITY

This procedure may not be waived.

### 5.0 RESPONSIBILITIES

#### 5.1 Organizations

Organizations that perform lockout / tagout operations will provide the necessary resources (i.e., training, periodic inspections) to all required personnel to ensure they are aware of and familiar with the requirements of the DFRC lockout / tagout program.

## 5.2 Chief, Safety, Health, & Environmental Office (Code SH)

The Chief of the Safety, Health, and Environmental Office has oversight for the DFRC lockout / tagout program and as such incurs the following responsibilities:

- A. Development of a lockout, tagout, and administrative locking / tagging program for DFRC.
- B. Will perform, along with authorized personnel, inspections of the lockout / tagout program.
- C. Investigation of lockout, tagout, and administrative locking / tagging incidents and report of findings to DFRC management and required agencies.

## 5.3 Organizations (Responsible Organizations, including Contractors)

The responsible organization conducting lockout and/or tagout must develop, document, and utilize equipment and/or system-specific lockout and/or tagout procedures. Organizations conducting lockout / tagout at DFRC are required to maintain records of such activities.

The organization conducting lockout and/or tagout for power generation, transmission, and distribution will maintain a current, written process specific to DFRC facilities and specific to the associated equipment.

## 5.4 Supervisors

- A. Ensure that persons who work under their supervision understand the potential hazards of the energy sources they work with.
- B. Ensure that persons who conduct or are involved with lockout, tagout, or administrative control operations follow appropriate procedures.
- C. Provide necessary resources for training of employees who conduct lockout / tagout or administrative control operations. See Section 7.0, Training Requirements.
- D. Designate who is an authorized, affected, or other employee.
- E. Keep a record of personnel designations and their training records.
- F. Be knowledgeable in their system discipline and act as the authorized person where applicable.
- G. Notify the DFRC Safety, Health, and Environmental Office of any known or suspected hazards regarding lockout / tagout, and stop work if any potential hazards are discovered.

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- H. Assist Safety and Health personnel in investigating lockout / tagout incidents.

### **5.5 Authorized Employees**

- A. Initiate the lockout / tagout process and ensure the process is conducted properly and in its entirety.
- B. Have required training and a thorough understanding of lockout / tagout procedures.

## **6.0 LOCKOUT, TAGOUT, & ADMINISTRATIVE CONTROL PROCEDURES**

Responsible organizations will develop, document, and use written procedures for the control of potentially hazardous energy when employees are engaged in the activities covered by this section. For mixed work groups involving civil service, various contractors, and/or subcontractors, one common procedure will be developed for that group by the organization responsible for the equipment or system in question.

### **6.1 Exceptions**

The responsible organization need not document the required procedure for a particular machine or equipment when *all* of the following elements exist:

- A. The machine or equipment has no potential for stored or residual energy or reaccumulation of stored energy after shut down that could endanger employees.
- B. The machine or equipment has a single energy source that can be readily identified and isolated.
- C. The isolation and locking-out of that energy source will completely de-energize and deactivate the machine or equipment.
- D. The machine or equipment is isolated from that energy source and locked out during servicing or maintenance.
- E. A single lockout device will achieve a locked out condition.
- F. The lockout device is under the exclusive control of the authorized employee performing the servicing or maintenance.
- G. The servicing or maintenance does not create hazards for other employees.
- H. The responsible organization, in using this exception, has had no accidents involving the unexpected activation or re-energization of the machine or equipment during servicing or maintenance.

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## 6.2 Steps Required for Lockout / Tagout

All Lockout / Tagout and Administrative LOTO activities will be documented on ([D-WK 234-8](#)), Lockout / Tagout Activity Log.

The procedures will clearly and specifically outline the scope, purpose, authorization, rules, and techniques to be used for the control of hazardous energy and the means to enforce compliance including, but not limited to, the following:

- A. A specific statement of the intended use of the procedure.
- B. Specific procedural steps for shutting down, isolating, blocking, and securing machines or equipment to control hazardous energy.
- C. Specific procedural steps for the placement, removal, and transfer of lockout or tagout devices and the responsibility for them.
- D. Specific requirements for testing a machine or equipment to determine and verify the effectiveness of lockout devices, tagout devices, and other energy control measures.

For equipment requiring written lockout / tagout procedures, organizations will use form [D-WK 226-8](#), Lockout / Tagout Procedure.

### Step 1 – Notification

The authorized employee will verbally notify affected and other employees:

- A. That service or maintenance on equipment or machines is to be performed in their area and that the machine or equipment must be shut down and locked out / tagged out to perform the servicing or maintenance.
- B. Why lockout / tagout is being done and to not interfere with lockout / tagout devices.
- C. Of any unsafe conditions around the work area resulting from the lockout / tagout.

### Step 2 – Preparation for Shutdown & Source identification

The authorized employee initiating the lockout and/or tagout will have the knowledge of the type and magnitude of the energy, the hazards of the energy to be controlled, and the method or means to control the energy.

If a situation occurs whereby the authorized employee is unsure of lockout / tagout procedures, the employee will obtain assistance from his/her supervisor and/or Code SH before continuing.

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**Step 3 – Isolation Machine or equipment isolation**

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

**Step 4 – Lockout / Tagout**

The authorized employee will affix all lockout / tagout devices to all energy isolating devices.

**A. Lockout**

- 1) The lockout tag must be legible, fully filled out, and at the minimum contain the:
  - a) Identity of the employee applying the device(s) and contact information
  - b) Date attached
  - c) Time attached
- 2) Tag must be attached with an appropriate locking device.
- 3) Lockout devices must be affixed in a manner that will hold the energy isolating devices in a "safe" or "off" position.
- 4) If an energy isolating device is capable of being locked out, the responsible organization's energy control program will utilize lockout unless the responsible organization can demonstrate that the utilization of a tagout system will provide full employee protection.

**B. Power Generation, Distribution, & Transmission Lockout, and/or Tagout**

The responsible organization conducting lockout and/or tagout for this purpose will maintain a current, written process using D-WK 226-8 specific to the associated equipment. The procedure must detail the methods of safe de-energizing of equipment, the prohibited use of control circuit devices and interlocks as energy isolation devices, mitigation of stored energy in capacitors and high capacitance elements, and mitigation of nonelectrical stored energy that could re-energize circuits. Only a qualified employee authorized on the equipment being locked out and/or tagged out will operate the operating controls to de-energize such equipment, dissipate, and mitigate stored energy, test to ensure de-energization, and re-energize the equipment after conclusion of the operation.

**C. Unable to Lockout**

Where a system, machine, or equipment cannot be locked out, the responsible organization will develop specific written procedures, in compliance with tagout procedures, that provide a level of safety equal to lockout for the task being performed. These procedures will be

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submitted to the Code SH for review before work begins. In demonstrating that a level of safety is achieved in the tagout program that is equivalent to the level of safety obtained by using a lockout program, the responsible organization must demonstrate full compliance with all tagout-related provisions of this procedure together with such additional elements as are necessary to provide the equivalent safety available from the use of a lockout device. Additional means to be considered as part of the demonstration of full employee protection must include the implementation of additional safety measures such as the removal of an isolating circuit element, blocking of a controlling switch, opening of an extra disconnecting device, or the removal of a valve handle to reduce the likelihood of inadvertent energization.

#### **D. Tagout**

Tagout devices, including their means of attachment, must be substantial enough to prevent inadvertent or accidental removal. Tagout device attachment means will be of a nonreusable type, attachable by hand, self-locking, and nonreleasable, with a minimum unlocking strength of no less than 50 pounds and having the general design and basic characteristics of being at least equivalent to a one-piece, all-environment-tolerant nylon cable tie.

#### **E. Lockout / Tagout Devices**

After a lockout / tagout device has been attached to an energy isolating means, it is not to be removed by anyone except the authorized employee who applied it, and it is never to be bypassed, ignored, or otherwise defeated. In the absence of the authorized individual who attached the lockout / tagout device, refer to Step 9, Exceptions, for guidance.

#### **Lockout Lock**

**Note:** Initial supply of locks and tags for lockout / tagout and administrative locking and tagging will be supplied by the Code SH office. Thereafter, the responsibility to obtain locks and tags, and the expense thereof will be the responsibility of the responsible organizations conducting lockout / tagout. A lock used to ensure the energy isolating device it is attached to remains in a de-energized state and cannot be re-energized without removing the lock with the following specifications:

- Master® brand with keyed different design
- Varying shank lengths may be used dependent on the application
- Lockout / tagout locks will be red in color

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*Example of lockout / tagout lock*



**Lockout Tag**

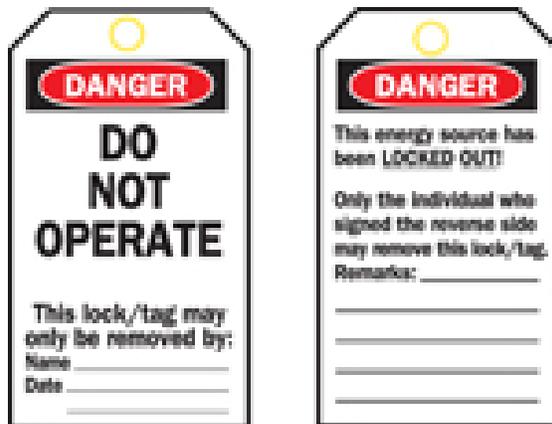
A tag used to readily identify a lockout / tagout state of equipment and machinery with the following specifications:

Tagout devices must warn against hazardous conditions if the machine or equipment is energized and must include a legend such as the following:

**Do Not Start. Do Not Open. Do Not Close. Do Not Energize. Do Not Operate.**

- At least 5" in height x 3" in width
- Plastic durable-tag design

*Example of Lockout Tag*



**F. Group Lockout / Tagout**

Each authorized employee will affix a personal lockout or tagout device to the group lockout device, group lockbox, or comparable mechanism when he or she begins work, and will remove those devices when he

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or she stops working on the machine or equipment being serviced or maintained.

The task lead or supervisor, who must also be an authorized employee, will oversee the removal of the locks and tags, and will be responsible for:

- 1) Overseeing shift change procedures
- 2) The release of stored energy
- 3) Verification of energy isolation
- 4) Lockout removal
- 5) Properly restoring the equipment to service

For single-lock energy isolating devices, the key to the lockout device will be placed in a lock box and each group's authorized employee will attach their lock and tag to the lock box. The lock box will be in the sole possession of an authorized supervisor or authorized designee who will oversee the removal of each group's lock.

#### **G. Shift Change**

Specific procedures must be utilized during shift or personnel changes to ensure the continuity of lockout or tagout protection, including provision for the orderly transfer of lockout or tagout device protection between off-going and on-coming employees, to minimize exposure to hazards from the unexpected energization or start-up of the machine or equipment, or the release of stored energy. As a minimum, there will be a "tailgate" type meeting between the off-going and on-coming supervisors accountable for the machine or equipment in question to exchange pertinent information to ensure the safety of personnel and equipment. (See form [D-WK 226-8.](#))

#### **H. Outside Personnel (Contractors, etc.)**

Whenever outside servicing personnel (contractors) are to be engaged in activities covered by the scope and application of this procedure, the onsite employer and the contractor will inform each other of their respective lockout or tagout procedures, and the on-site employer's (DFRC) lockout / tagout program will be followed.

#### **Step 5 – Release Stored Energy**

The authorized employee must ensure all stored or residual energy is relieved, disconnected, restrained, and otherwise rendered safe. Stored energy devices or equipment such as capacitors, loaded springs, elevated machine members, hydraulic and pneumatic systems, and air, gas, steam, water pressure, etc., must be dissipated or restrained with appropriate methods such as grounding, repositioning, blocking, bleeding down,

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

### **Step 6 – Verification of Energy Isolation**

The authorized employee must verify the equipment is disconnected from the energy source(s) by:

- A. Operating the start button or other normal operating control(s), to confirm the equipment does not function.

**CAUTION: Be sure to turn the controls back to off or neutral position after verification.**

- B. Testing to make certain the equipment is de-energized. The machine or equipment is now locked and/or tagged out.

### **Step 7 – Perform Servicing or Maintenance**

Complete all required servicing and maintenance.

#### **Testing or positioning of machines, equipment, or components thereof:**

In situations in which lockout or tagout devices must be temporarily removed from the energy isolating device and the machine or equipment energized to test or position the machine, equipment, or component thereof, the following sequence of actions will be followed by Authorized Employees:

- A. Clear the machine or equipment of tools and materials.  
Remove employees from the machine or equipment area.
- B. Remove the lockout or tagout devices as necessary.
- C. Energize and proceed with testing or positioning.
- D. De-energize all systems and reapply energy control measures to continue the servicing and/or maintenance.

### **Step 8 – Lock and/or Tag Removal – Restoring Equipment to Service**

The authorized employee will ensure the following steps are performed when the machine or equipment is ready to return to normal operating condition.

- A. Reinstall all safety equipment, such as safety guards, railings, etc., where possible.
- B. Check the equipment and the immediate area around it to ensure that all tools and nonessential items have been removed and that the equipment components are operationally intact.

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- C. Ensure all activation controls, switches, or valves are in the proper position.
- D. Check the work area to ensure that all employees have been notified and are safely positioned or removed from the area.
- E. Remove the lockout / tagout device(s) and re-energize the machine or equipment.

**CAUTION: The removal of some forms of blocking may require re-energization of the machine before safe removal.**

**Note:** For group lockout and/or tagout, all authorized employees must be present and agree to remove lockout and/or tagout devices.

**Lockout or tagout devices removal.** Each lockout or tagout device must be removed from each energy-isolating device by the authorized employee who applied the device.

When the authorized employee who applied the lockout or tagout device is not available to remove it, that device may be removed under the direction of the responsible organization provided that specific procedures and training for such removal have been developed, documented, and incorporated into the responsible organization's energy control program. The responsible organization must demonstrate that the specific procedure provides equivalent safety to the removal of the device by the authorized employee who applied it.

The specific procedure will include at least the following elements:

- A. Verification by the responsible organization that the authorized employee who applied the device is not at the facility.
- B. Making all reasonable efforts to contact the authorized employee to inform him/her lockout or tagout device has been removed.
- C. Notify Code SH in writing of the need to have locks, tags, or devices removed by other than the employee who placed them.
- D. Ensuring that the authorized employee has this knowledge before he/she resumes work at that facility.

**Step 9 – Restore Operations**

Notify affected and other employees that the servicing or maintenance is completed and the machine or equipment is ready for use.

**6.3 Administrative Locking & Tagging**

Administrative locking and/or tagging may be performed for various reasons, including equipment security, programmatic purposes, or general safety. Its application will be at the discretion of the responsible organization, equipment proprietor, etc. with scrutiny by the DFRC Code SH Office.

A distinction must be made between administrative locking and/or tagging applications and lockout / tagout applications. The lockout / tagout application is specifically reserved for those instances in which a zero-energy state must be ensured to allow personnel to service, maintain, or modify equipment. Administrative locking and/or tagging will not be used as a means of protection during a servicing, maintenance, or modification procedures, and is not a substitute for lockout and/or tagout.

Administrative locking and/or tagging devices must be applied by an authorized employee. Administrative locking and/or tagging may be controlled by a group, rather than an individual, but the group must have an authorized employee to attach or remove the devices. An administrative locking and/or tagging application must not use a lockout / tagout tag. The administrative application requires the use of a specific tag, as described in the definitions.

At a minimum, the following information must be legibly written upon the tag:

- Name and phone number of authorized employee (individual or group)
- Date and time of attachment
- Why the item or system is being controlled
- Additional information should be added as appropriate

**Administrative Control Lock**

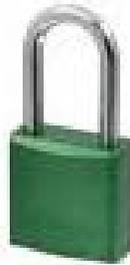
A lock used to ensure the energy isolating device it is attached to remains in a de-energized state and cannot be re-energized without removing the lock with the following specifications:

- Master® brand with keyed different design.
- Varying shank lengths may be used dependent on the application.
- Administrative control locks will be green in color.

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*Example of Administrative Control Lock*



**Administrative Control Tag**

A tag used for administrative locking and tagging with the following specifications:

- Self-Laminating
- 3” in width x 5-3/4” in length, orange
- Contains the “**WARNING**” header

*Example:*



The authorized employee will affix the administrative tag by means of a lock. If the item or equipment will not receive a lock, a tag maybe used alone and must be securely attached with a one-piece, all-environment-tolerant nylon cable tie in a manner so it cannot be inadvertently or accidentally detached.

After an administrative locking or tagging device has been attached to an item or equipment, it is not to be removed by anyone except the authorized employee or group who applied it and it is never to be bypassed, ignored, or otherwise defeated. In the absence of the authorized employee or group who attached the locking or tagging device, the following steps must be followed for removal of a locking or tagging device with no exception.

- A. Verify that the authorized employee or group who applied the administrative lock or tag is not at the facility.

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- B. Make any and all attempts to contact and inform the authorized employee or group that their administrative lock and/or tag will be removed.
- C. Thoroughly inspect the item or equipment to ensure the removal of the administrative locking or tagging device will not result in a hazard to personnel or material.
- D. Notify Code SH of removal of the locking or tagging device.
- E. Ensure the authorized employee or group is informed that their lock and/or tag has been removed before the authorized employee or group resumes work in the area.
- F. Make an entry in the respective administrative locking or tagging authorized employee or group's locking and/or tagging record if locking and/or tagging means was removed without the applying party's knowledge.

Responsible organizations that use administrative locking and/or tagging will keep a record of all applications of administrative locking or tagging and will include; date and time attached, equipment and its location, reason for application, date and time removed, and any additional applicable information.

Responsible Organizations conducting lockout and/or tagout must perform an inspection of their energy control procedure at least annually to ensure that the procedure and the requirements of this procedure are being followed. The periodic inspection will be performed by an authorized employee other than the ones utilizing the energy control procedure being inspected. Where lockout / tagout is used for energy control, the periodic inspection will include a review, between the inspector and each authorized employee, of that employee's responsibilities under the energy control procedure being inspected.

The inspection must be conducted to identify and correct any deviations or deficiencies. The inspection must document the following:

- A. Identification of the machine or equipment on which the energy control procedure was used (minimum of three and only those inspected)
- B. Verification of lockout and/or tagout procedure for applicable machine or equipment (minimum of one of those audited)
- C. Date of inspection
- D. Organization affiliation
- E. Names of employees included in the inspection
- F. Name of the person who performed the inspection

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- G. What deviations or deficiencies were identified, and how they will be corrected, and by whom. A copy of this inspection document will be forwarded to the Code SH Office.

The responsible organization will be responsible for tracking all deficiencies to closure.

## 7.0 TRAINING REQUIREMENTS

### 7.1 Initial Training

Authorized persons will receive training in the:

- A. Recognition of applicable hazardous energy sources.
- B. Type and magnitude of energy available in DFRC workplaces.
- C. Recognition of multiple energy sources to a single piece of equipment or system.
- D. Methods and means necessary for energy isolation and/or control.

All authorized persons conducting lockout / tagout on electrical equipment must pass a written examination to the adequacy and retention of training information. When employees are performing work on or associated with exposed lines or energized equipment, or have the potential to be exposed to a hazardous energy source, persons trained in first aid, including cardiopulmonary resuscitation (CPR), will be available as follows:

For field work involving two or more employees at a work location, at least two trained persons will be available. However, only one trained person need be available if all new employees are trained in first aid, including CPR, within 3 months of their hiring dates.

Affected employees will receive training in the:

- a) Recognition of when energy control procedures are being used.
- b) Purpose and use of energy control procedures.
- c) Importance of not circumventing a lockout, tagout, or administrative lock or tag.

All other employees will receive general awareness training, to include:

- a) Identification of lockout, tagout, and administrative locking and tagging devices and their limitations.
- b) Importance of not circumventing a lockout, tagout, or administrative lock or tag.

## 7.2 Retraining

Retraining will occur at least every 4 years or when there are changes in:

- A. Job assignments
- B. Energy or material control procedures
- C. Equipment
- D. Systems that present new hazards

Retraining will be given if, by inspection or by any other means, it becomes apparent that employees are deviating from lockout and/or tagout, or administrative locking and/or tagging procedures or lack sufficient knowledge in the use of energy or material control procedures.

## 7.3 Training Certification

Each DFRC responsible organization will certify and keep a record of Authorized, Affected, and Other Employee training. See Section 8.0, Management Records & Record Retention.

# 8.0 MANAGEMENT RECORDS & RECORDS RETENTION

## 8.1 Records

Records pertaining to lockout / tagout or administrative locking and/or tagging will be maintained by the responsible organization.

[D-WK 226-8](#) Lockout/Tagout Procedure

[D-WK 234-8](#) Lockout/Tagout Activity Log

## 8.2 Training Records

Training records will be maintained by instructors providing the training and by the responsible organization. Training conducted by Code SH will be scheduled and documented in the SATERN training system. Other responsible organizations may have different methods of maintaining training records for their employees. Lockout / tagout training records will be accessible to supervisors, employee, trainee, and authorized inspectors. Training records will be maintained for 1 year after the employee terminates or ceases to use the training.

Records are preserved, maintained, and disposed of in accordance with NPR 1441.1, NASA Records Retention Schedules, DFRC records management procedures, and

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Code S Organizational Records Series Inventory. Destruction of any records, regardless of format, without an approved schedule is a violation of Federal law.

## 9.0 RELEVANT DOCUMENTS

### 9.1 Authority Documents

NPD 8700.1	NASA Policy for Safety and Mission Success
NPD 8710.2	NASA Safety and Health Program Policy
NPR 8715.3	NASA General Safety Program Requirements (Subchapters 3.4, 7.3, and 7.4 apply to lockout / tagout)
29 CFR 1910.147	The Control of Hazardous Energy (Lockout/Tagout)
29 CFR 1910 Subpart R	Special Industries, Section .269 Electric Power Generation, Transmission, and Distribution
29 CFR 1910 Subpart S	Electrical, Sections .301 through .399

### 9.2 Informational Documents

OSHA-3120	Control of Hazardous Energy Lockout/Tagout. This pamphlet may be found in NODIS Technical Standards section.
ANSI Z244.1	Lockout/Tagout.

### 9.3 Forms

<a href="#">D-WK 226-8</a>	Lockout/Tagout Procedure
<a href="#">D-WK 234-8</a>	Lockout/Tagout Activity Log

## 10.0 DEFINITIONS

Administrative Control Lock	A lock used to ensure the energy isolating device it is attached to remains in a de-energized state and cannot be re-energized without removing the lock.
Administrative Control Tag	A tag used for administrative locking and tagging.
Affected Employee	An employee whose job requires him/her to operate or use machines or equipment that requires lockout / tagout during maintenance, or an employee who works in an area where such machines or equipment are located.
Authorized Employee	A person who locks out or tags out machines or equipment in order to perform servicing or maintenance on that machine or equipment. An affected employee becomes an authorized employee when that employee's duties include performing servicing or maintenance covered under this procedure.
Blocks	Suitable devices for making a piece of equipment safe while being repaired. Examples include <ul style="list-style-type: none"> <li>• Blocks under raised dies</li> <li>• Lifts</li> <li>• Any equipment that might inadvertently move by sliding, falling, or rolling</li> <li>• Blind flange that is placed to ensure that no air, steam, or other substance will pass through that point if the system is accidentally activated.</li> <li>•</li> </ul>
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.
Energized	A device connected to an energy source or containing residual or stored energy.
Energy	A mechanical device that physically prevents the transmission or

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Isolating Device	<p>release of energy, including but not limited to the following:</p> <ul style="list-style-type: none"> <li>• Manually operated electrical circuit breaker</li> <li>• Disconnect switch</li> <li>• 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</li> <li>• Line valve</li> <li>• Block</li> <li>• Any similar device used to block or isolate energy</li> </ul> <p>Push buttons, selector switches, and other control circuit type devices are not energy isolating devices.</p>
Energy Source	Any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, radiation, or other energy.
Group Lockout / Tagout	A lockout / tagout situation that requires two or more repair groups or people.
Hot-Tap	A procedure used in the repair, maintenance, and service activities that involve welding on a piece of equipment (pipelines, vessels, or tanks) under pressure in order to install connections or appurtenances. It is commonly used to replace or add sections of pipeline without the interruption of service for air, gas, water, steam, and petrochemical distribution systems.
Lockout	The placement of a lockout device on an energy isolating device, in accordance with an established procedure, to ensure that the energy isolating device and the equipment being controlled cannot be operated until the lockout device is removed.
Lockout Device	A device that utilizes a positive means such as a keyed lock, 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 blind flanges.
Lockout Lock	A lock used to ensure the energy isolating device it is attached to remains in a de-energized state and cannot be re-energized without removing the lock.
Lockout Tag	A tag used to readily identify a lockout / tagout state of equipment and machinery.
Normal	The utilization of a machine or equipment to perform its intended

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Production Operations	production function.
Other Employee	An employee whose work operations are or may be in an area where energy control procedures may be utilized.
Servicing and/or Maintenance	Workplace activities such as constructing, installing, setting up, adjusting, inspecting, modifying, and maintaining and/or servicing machines or equipment where the employee may be exposed to the unexpected energization or startup of the equipment or release of hazardous energy.
Setting Up	Any work performed to prepare a machine or equipment to perform its normal production operation.
Standardized Devices	A device that is singularly identified, used only for controlling energy and for no other purpose, and is legible and understandable by all authorized, affected, and other employees.
Tagout	The placement of a tagout device on an energy isolating device, in accordance with an established procedure, to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed.
Tagout Device	A prominent warning device, such as a tag and a means of attachment that 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.
Work On	Potential for coming in contact with electrical conductors, circuit parts, possible rotating machinery, or parts, which if activated or moved, may cause injury to personnel or the machinery itself, with the hands, feet, or other body parts, or with tools, probes, or other test equipment, regardless of the personal protective equipment a person is wearing.

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**Document History Log**  
**IPP Review Date: 06-22-10**

This page is for informational purposes and does not have to be retained with the document.

<b>Status Change</b>	<b>Document Revision</b>	<b>Effective Date</b>	<b>Page</b>	<b>Description of Change</b>
Baseline		09-10-10		Replaces DCP-S-009, Chapter 5
Admin Change	Baseline-1	11-17-10		Updated footer to show that the document may be distributed outside of Dryden.

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