2600SEG118
STANDARD FOR EQUIPMENT LOCKOUT / TAGOUT

1.0 PURPOSE

Establish safety instructions to isolate systems, machinery, equipment or confined spaces from energy sources so safely perform work thereon, and to restore such systems or confined spaces to service.

2.0 BACKGROUND

This Standard replaces the former Panama Canal Commission's Lockout / Tagout Policy contained in Appendix V, Chapter 790 of the Panama Canal Personnel Manual (PCPM).

3.0 SCOPE

This Standard applies to all Panama Canal Authority (ACP) equipment, facilities, and personnel, and to contractor and other outside personnel working on ACP contracts or working in the Canal Operating area, at ACP facilities. It provides procedures to be used to:

3.1 Isolate from energy sources the systems, machinery or equipment to be inspected, serviced or repaired (see Attachment 1).

3.2 Isolate from energy sources or connecting or confined spaces or other adjacent spaces where work is to be performed.

4.0 LEGAL FOUNDATION

This Standard is established pursuant to Agreement No. 12 of the Board of Directors of the Panama Canal Authority (ACP), Chapter 1, Article 3, of the Occupational Health and Risk Control Regulation titled *Reglamento de Control de Riesgos y Salud Ocupacional*.

5.0 DEFINITIONS

5.1 Authorized person: A person who is authorized to take a confined space or system, machinery, or equipment out of service and to tag it, so that it remains cannot be accessed or energized until the lockout / tagout is removed.

5.2 Affected person: A person whose job requires him/her to work in or on a confined space, or be in the vicinity of, or to operate or use, a system, machinery, or equipment to be placed out of service.

5.3 Designated person: An authorized person who is designated the person-in-charge to coordinate the work, and to implement this Standard for the protection of a group of persons who are working in a confined space or on the same system, machinery, or equipment.

5.4 Coordinator: An authorized person who is designated the person-in-charge to coordinate the work, and to implement this Standard for the protection of different groups of persons who are working in a confined space, or on the same system, machinery, or equipment.

5.5 Energy sources: Electrical (600 volts or under), mechanical, pneumatic, hydraulic, chemical, nuclear, thermal, or other energy sources that could cause injure to personnel or damage to equipment. Possible energy sources include:

5.5.1 Electrical energy from energized circuits, static charges, batteries, or capacitors;

5.5.2 Mechanical energy in the form of moving levers, gears, shafts, blades, springs, etc.;

5.5.3 Heat energy from steam systems, heaters, or heated surfaces; and

5.5.4 Pressure from steam, pneumatic or hydraulic systems.

5.6 Outside personnel: ACP contractors or personnel who are uninvolved or unfamiliar with the pertinent installation, machinery or equipment.

5.7 Isolation: A decisive, effective and clear means of locking or disconnecting that requires removal or reassembly before energy can be restored to a confined space, system, machinery, or equipment, such as:

5.7.1 Lockout: The placement of a lock or positive lockout device (requiring a key to open) on an energy-isolating device (switch, valve, lever, etc.) in such a manner as to prevent the flow of energy past the energy isolating device.

5.7.2 Physical disconnect: Disconnection of mechanical linkage, drive mechanism (belts, gears, or chains) or removal of energizing switches, valves, or sections of an electrical, pneumatic, or hydraulic system.

5.7.3 Blanking: The absolute closure of a pipe, line, duct or compartment to prevent passage of any material (solid, liquid or gas) by placing a solid plate or cap on a gas or hydraulic line.

5.7.4 Double Block and Bleed: Isolation of a section of a pipe system or confined space by locking closed the nearest in-line valves on both sides of the section of pipe or confined space to be isolated, and locking open a drain (bleed) line in the line between the two valves.

6.0 GENERAL

6.1 Tagout:

6.1.1 When any of the isolation techniques are used, the system, machinery, or equipment taken out of service must be tagged by the person performing the isolation technique.

6.1.2 Tagout is used with, not as a substitute for, the isolation techniques described above. The system, machinery, or equipment is not to be placed back into service until the tag and the method of isolation are removed.

6.1.3 Forms No. 4397 and No. 4397-L are the only tags authorized for isolation of confined spaces, systems, machinery, or equipment. The guidelines for filling them out are shown at Exhibit A to Attachment 1. Exempted are the Locks Diving Operations, for which a reusable plastic-coated card with the word “DIVERS” in large letters is allowed, provided such card is supported by a Diving Plan detailing the machinery that is out of service and locked out, the name of the person assigned for the lockout / tagout, the name of the primary operator of the Locks Control Center coordinating the lockout, and the names of all the diving personnel involved. The Diving Plan shall be sent to all involved individuals/sections (OPPB, RHSH, pressure chamber, etc).

6.1.4 The host unit of the pertinent machinery, equipment or space shall annually validate the isolation devices and cards that have not been withdrawn on the date the validation is performed.

6.1.5 Whenever the decision is made to permanently place machinery, equipment or space out of service, the energy sources shall be physically disconnected. If there is a valid need to maintain the locked out machinery, equipment or space connected to the energy source, the information contained in the card shall be updated.

6.2 Devices:

6.2.1 Lockout devices shall maintain the energy isolating device in a safe position that will prevent the energizing of a system, machinery, or equipment. Included are padlocks, deadlight and bolted covers.

6.2.2 When padlocks are utilized, they shall be identified as being exclusively for that purpose, to be used only for isolation and, within a given installation, they shall be of the same color, shape and size.

6.3 Periodic inspection:

6.3.1 The Safety and Industrial Hygiene Unit will conduct periodic inspections or reviews of the procedures established in this Standard to ensure that such procedures and requirements are followed.

6.4 Training:

6.4.1 All affected individuals must be trained to understand the purpose and function of the lockout / tagout standard and procedures.

6.4.2 Authorized persons who isolate confined spaces, machinery and equipment shall be trained in recognition of hazardous energy sources, the type and magnitude of energy in the workplace, and the methods and means necessary for energy isolation and control both in general and specifically for the workplaces in which they will perform this function.

6.4.3 Affected individuals and other persons whose work may be in an area where lockout / tagout procedures may be utilized shall be instructed about the procedures and about the prohibition from restarting or re-energizing systems which are locked/tagged out.

6.4.4 A record shall be kept of all the training provided under this Standard.

6.5 Outside personnel:

6.5.1 The host unit of the installation, machinery, or equipment shall ensure that the outside personnel are familiar with and comply with this Standard and any additional requirements for energy control/isolation practiced at that facility.

6.5.2 Outside personnel shall closely coordinate their work with the host unit.

6.6 Working procedures:

6.6.1 Group lockout and tagout.

6.6.1.1 When work is to be performed by more than one person on the same confined space, system, machinery, or equipment, the appropriate lockout / tagout procedures and these additional requirements will be followed:

6.6.1.2 When individuals from different crafts or different crews are working on the same confined space, system, machinery, or equipment, but are not part of a coordinated group under single supervision, each ***authorized person*** shall place his/her personal lock and tag on the group lockout device before beginning work and remove it upon completion of his/her work.

6.6.1.3 When personnel are working in a group, primary responsibility for implementation of this Standard shall be vested in a ***designated person*** for that specific group of employees.

6.6.1.4 The ***designated person*** shall determine the individual hazard exposure of each group member and ensure that each individual is aware of the hazards of his/her assigned task.

6.6.1.5 When more than one crew is working on the same project, overall lockout / tagout control responsibility shall be assigned to a single designated person (***coordinator***), who will coordinate the work of the different crews and ensure continuity of protection.

6.6.1.6 Restoration of the isolated system or confined space shall be exclusively performed by:

6.6.1.6.1 If it is a group, *by* the designated person for the group, or one under such person's direct supervision, or

6.6.1.6.2 If there are several crews or groups, *by* the coordinator of the work or a person under his/her direct supervision.

6.6.2 Shift or personnel changes.

6.6.2.1 The designated person, or the coordinator, as the case may be, shall give specific and documented instructions regarding shift or personnel changes, to ensure the continuity of lockout / tagout protection.

6.6.2.2 These instructions shall include provisions for the orderly transfer of lockout and tagout device protection between off-going and oncoming employees, to eliminate exposure to hazards from the unexpected energization or start-up of a system, machinery, or equipment, or release of stored energy.

6.7 Records:

6.7.1 Each unit performing activities covered by this Standard shall maintain a record of each lockout and/or tagout for a period of at least one month.

6.7.2 The record may consist of one, or a combination of the following methods: file tags by assignment number, by notebook entry, or computer record. The selected method shall guarantee that all tag information contained in the card is recorded.

7.0 RESPONSIBILITIES

7.1 Operating units are responsible for:

7.1.1 Assuring that all personnel involved in work covered by this Standard has the knowledge and skills required to protect them from the risks to which they could be exposed consequent to their duties.

7.1.2 Assuring that the authorized personnel has the knowledge and skills required for the application, utilization, and safe removal of energy controls.

7.1.3 Maintaining records as established in this Standard.

7.1.4 Contractor shall provide training for their own employees.

8.0 INQUIRIES

Any information or clarification of the content or application of this Standard must be requested in writing to the Safety and Industrial Hygiene Unit (RHSH).

9.0 EXCEPTIONS

Requests for deviations or temporary exceptions in complying with this Standard shall be requested in writing to the Safety and Industrial Hygiene Unit.

10.0 TERM

This Standard shall remain in force until amended or revised.

11.0 REFERENCES

11.1 Appendix V, Chapter 790 of the former Panama Canal Commission Personnel Manual (PCPM): Equipment Lockout / Tagout Policies.