US Army Corps
of Engineers
Walla Walla District

Safety and Occupational Health Office

Safe Clearance Program for the Control of Hazardous Energy

NWWP 385-1-20

11 May 2012

SAFE CLEARANCE PROGRAM
FOR THE CONTROL OF HAZARDOUS ENERGY

TABLE OF CONTENTS

Chapter 11 – Committees, Inspections, and Program Review

APPENDIXES

DEPARTMENT OF THE ARMY
WALLA WALLA DISTRICT, CORPS OF ENGINEERS
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SAFE CLEARANCE PROGRAM FOR THE CONTROL OF HAZARDOUS ENERGY

Chapter 1 – Introduction

1-1. PURPOSE. This U.S. Army Corps of Engineers (Corps), Northwestern Division, Walla Walla District (District), Pamphlet (NWWP), prescribes policies and procedures for the Safe Clearance Program for the control of hazardous energy at all facilities in the District.

a. The policies and procedures of this NWWP are intended to:

(1). Safeguard personnel whose operating, maintenance, construction, testing, or research duties require them to work on or near equipment in which the unexpected energizing, startup, or release of any form of hazardous energy could cause personal injury or property damage.

(2) Prevent equipment damage.

(3) Protect the environment (from release of lubricating oil, control fluids, hydraulic oil, etc.).

b. The following appendixes are included in this NWWP:

(1) Appendix A – Definitions. This appendix includes definitions pertinent to this NWWP.

(2) Appendix B – Sample Hazardous Energy Control Program (HECP) Forms and Tags. This appendix includes samples of forms and tags used in the procedures outlined in this NWWP.

(3) Appendix C – Applicable Equipment for Personal Lockout/Operational Permits Example. This appendix provides an example to assist each project in developing their own Applicable Equipment for Personal Lockout/Operational Permits.

(4) Appendix D – Personnel Authorizations Example. This appendix provides an example to assist each project in developing their own Personnel Authorizations.

(5) Appendix E – Engineering Regulation 385-1-31, The Control of Hazardous Energy. This appendix provides a link to Engineering Regulation (ER) 385-1-31.

(6) Appendix F – Safe Clearance Lock Box Storage Locations. This appendix identifies where Safe Clearance Lock Boxes should be stored.

(7) Appendix G – Bonneville Power Administration Accident Prevention Manual, Section S-6, Switching and Clearance Procedure. This appendix provides District Issuing Individuals with guidance for issuing and receiving clearances, terminal clearances, hold orders, and terminal holds on transmission lines connecting to Bonneville Power Administration (BPA).

1-2. APPLICABILITY. The policies and procedures prescribed in this NWWP are applicable to all employees of the District. This NWWP meets minimum lockout/ tagout requirements for general industry and construction activities.

1-3. REFERENCES.

a. 29 Code of Federal Regulation (CFR) 1910.147, *The Control of Hazardous Energy (Lockout/Tagout).*

b. 29 CFR 1910.269, *Electric Power Generation, Transmission, and Distribution*.

c. 29 CFR 1910.333, *Selection and Use of Work Practices*.

d. ER 385-1-31, Safety and Occupational Health – *The Control of Hazardous Energy*. See appendix E.

e. Engineer Manual (EM) 385-1-1, *Safety and Health Requirements Manual*.

f. American National Standards Institute (ANSI) C2, *National Electrical Safety Code*.

g. Occupational Safety and Health Administration (OSHA) Instruction STD 1-7.3, *The Control of Hazardous Energy (Lockout/Tagout) – Inspection Procedures and Interpretive Guidance*.

h. *BPA, Accident Prevention Manual*, Section S-6, Switching and Clearance Procedure, September 1, 2007.

1-4. DEFINITIONS. Refer to appendix A.

1-5. AUTHORITY. The authority for this NWWP is ER 385-1-31.

1-6. EFFECTIVE DATE. This NWWP is effective upon publication.

SAFE CLEARANCE PROGRAM FOR THE CONTROL OF HAZARDOUS ENERGY

Chapter 2 – Responsibilities

2-1. RESPONSIBLE OFFICIAL. The Responsible Official at each project or facility has overall responsibility for the project's Safe Clearance Program and associated HECP procedures, and shall ensure that the requirements of this NWWP are properly applied and adhered to.

a. The Operating Project Manager (OPM) is the Responsible Official and has overall responsibility for the project's HECP. If no OPM is responsible for the location where operations and maintenance is being conducted, the person in charge of the facility is the Responsible Official.

b. The Responsible Official designates, in writing, the Issuing Individuals (Issuing Authority) and Authorized Individuals (see appendix D).

(1) If a person requests a safe clearance and is not listed as an Authorized Individual (see appendix D), the Responsible Official may elect to grant temporary written authorization. This temporary written authorization shall be provided to the Issuing Individual.

(2) The Responsible Official or designee is responsible for all administrative aspects of the HECP, including:

(a) Training and testing.

(b) Annual review and record keeping.

(c) Overseeing Safe Clearance Committee activities.

(d) Drafting proposed revisions to the HECP.

(e) Monitoring program compliance.

(f) Authorizing mission-essential systems and equipment for removal from service.

(g) Ensuring maintenance and retention of all safe clearances, personal lockouts (both single and multiple point), and caution order records.

(h) Preparing or directing the preparation of written procedures for clearing out equipment and the placement of tags and locks.

(i) Maintaining a file or manual of written procedures and making it available to all Affected Personnel.

(j) Promptly preparing HECP procedures whenever new or modified equipment or changes in operating procedures or practices make it necessary.

(k) Coordinating HECP procedures between project operating and maintenance personnel, resource personnel, and contractors or other affected off site personnel.

(l) Ensuring contractors and other affected Government or non-Government off-site personnel are trained and comply with the provisions of the HECP.

(m) Investigating alleged violations. Take corrective action as necessary.

2-2. ISSUING INDIVIDUAL. The Issuing Individual maintains control of hazardous energy sources and operating equipment and systems, including the Safe Clearance Software Program. Upon issuance of a safe clearance, the Issuing Individual temporarily relinquishes control of equipment to the PAI for the accomplishment of servicing and maintenance work. The Issuing Individual shall:

a. Verify that the requester is authorized to be issued a safe clearance.

b. Verify that an approved Activity Hazard Analysis (AHA) (NWW Form 385-1) (see appendix B) has been submitted.

c. Review requests for safe clearances and switching orders, and consult with the person who requested the safe clearance to ensure that adequate protection is provided to personnel and equipment for the work to be performed.

d. Ensure the preparation of the safe clearance paperwork.

e. Make all necessary arrangements for interruption of services, including notification of customers.

f. Coordinate with agencies and other entities to ensure isolation of systems that are to be cleared.

g. Ensure the application and removal of lockout devices and tags according to procedures.

h. Record all safe clearance operations as required.

i. Maintain awareness of equipment condition and status during the safe clearance.

j. Ensure the equipment is ready for service after work has been completed. Ensure that all Authorized Individuals have released their safe clearances and removed their locks.

k. Provide oversight to ensure that all parties follow the provisions of the HECP.

l. Ensure Temporary Protective Grounds (TPG) are installed and hang TPG tags (see appendix B).

m. Delegate duties to a designated alternate as appropriate, except for issuing and releasing safe clearances; authorizing changes of status; and making Station Log Book entries. See “Issuing Individual Designated Alternate” in appendix A.

2-3. PRINCIPAL AUTHORIZED INDIVIDUAL (PAI). This is the Authorized Individual who requested and holds the safe clearance. The PAI, also called Clearance Holder, shall:

a. Request safe clearances and submit an approved AHA (NWW Form 385-1) (see appendix B) for the work.

b. Review the safe clearance request with the Issuing Individual to ensure it provides adequate protection for the work to be done.

c. Verify the correct positioning of all energy isolation points and the correct placement of lockout/tagout devices.

d. Verify installation of all required physical barriers and TPGs.

e. Be responsible for the application and removal of safe clearance locks.

f. Verify hazardous energy is relieved, bled off, or otherwise released in a safe manner.

g. Assume responsibility for the system under safe clearance until:

(1) All work is done.

(2) All personnel, tools, and equipment are in the clear.

(3) All grounds, barriers, and jumpers are removed.

(4) The safe clearance is released to the Issuing Individual.

h. Keep the Issuing Individual informed of the status of the work.

i. Coordinate with other PAIs and Affected Personnel as required.

j. Obtain permission from the Issuing Individual before making any change to the status of the safe clearance.

k. Assume full responsibility for safeguarding the Group Clearance Form (Master Tag) (see appendix B) and ensure all Affected Personnel sign on and off the safe clearance per procedures, legibly and in ink.

l. Ensure the work is completed and equipment is ready for service before releasing the safe clearance.

m. Report to the Issuing Individual any circumstances not meeting the requirements of the HECP.

2-4. AUTHORIZED INDIVIDUAL. Authorized Individuals are qualified to hold safe clearances, operational permits, and personal lockouts as identified by the Responsible Official (see appendix D). An Authorized Individual may act in the capacity of a PAI or an Affected Person as appropriate.

2-5. AFFECTED PERSONNEL. Affected Personnel perform servicing and maintenance within the boundary of the safe clearance. All Affected Persons shall:

a. Verify that the safe clearance provides adequate protection for the work to be performed prior to signing on the Group Clearance Form (Master Tag) (see appendix B).

b. Report to the Issuing Individual any circumstances not meeting the requirements of the HECP.

c. Obtain permission from the PAI prior to performing work under a safe clearance.

d. Sign on and off, in ink, the Group Clearance Form (Master Tag).

e. Hang and remove their personal locks as required.

2-6. ALL EMPLOYEES. All employees shall report procedural errors or alleged violations to the Issuing Individual, their supervisors, or the Responsible Official. All personnel shall demonstrate a spirit of cooperation and shared responsibility for the implementation of the HECP. Any potentially unsafe conditions shall be reported to the Issuing Individual.

2-7. INCIDENTAL PERSONS. Incidental Persons include visitors and vendors along with others who are allowed to enter, perform inspections, and view the area affected by the safe clearance. All visitors and vendors must be given training to include instruction regarding HECP procedures and the prohibition of removing a lockout or tagout.

a. All vendors and visitors shall be escorted at all times by the PAI, an Authorized Individual, or an Affected Person.

b. Escorts are responsible for signing on/off the Group Clearance Form (Master Tag) (see appendix B) and denoting the number of people escorted.

c. Escorts shall hang or remove their personal locks as required.

SAFE CLEARANCE PROGRAM FOR THE CONTROL OF HAZARDOUS ENERGY

Chapter 3 – Policies and Rules

3-1. GENERAL. The intent of this policy is to protect personnel, equipment, and the environment from damage through the use of HECP procedures. All energy sources shall be controlled before performing work, service, or maintenance on equipment. In circumstances requiring safe clearances, personnel and resources shall not be considered protected until all HECP procedures and special instructions have been completed.

a. A copy of the AHA (NWW Form 385-1) (see appendix B) shall be submitted with the safe clearance request.

b. Use lockout where isolation points are capable of being locked out. Tags shall always accompany locks.

c. Tagout only is permitted when isolation points are not capable of being locked.

d. Train personnel on the purpose and application of the HECP and associated procedures.

e. Coordinate servicing and maintenance activities when more than one employer, workgroup, or facility is involved or affected.

f. Perform periodic inspections to assure continued program compliance.

g. All modified, rehabilitated, or new equipment shall be capable of accepting lockout devices.

h. Employees will be notified of their rights and responsibilities with regard to reporting unsafe conditions and/or procedures.

3-2. PROCEDURAL REQUIREMENTS.

a. Before any task is performed, the worker shall determine whether the provisions of paragraph 3-1 require a safe clearance. If one is required, personnel and equipment shall not be considered protected until all applicable measures of the HECP are completed.

b. Only qualified personnel (Issuing Individual or Designated Alternate) shall be permitted to perform the switching, valving, and tagging steps of the safe clearance.

c. Issuing Individuals may receive safe clearances issued to the position for the following conditions:

(1) Line terminal clearances on tie lines and supply lines to and from outside utilities or the power marketing agency, BPA, to establish safe working conditions within areas of high voltage equipment energized by these authorities. (See appendix G for BPA Accident Prevention Manual, Section S-6, Switching and Clearance Procedure.)

(2) To temporarily hold defective equipment out of service in emergency conditions or prevent operation of malfunctioning equipment that might be damaged if operated.

(3) In cases where emergency repair work is needed in order to restore critical equipment to service and no Authorized Individuals are available to take clearances.

d. Requests for safe clearances should be made a minimum of 24 hours in advance to give the Issuing Individual time to prepare. Large, complex, or mission essential clearances will typically require additional time to prepare, review, and to schedule outages. Professional consideration on behalf of both the requester and the Issuing Individual shall be observed.

e. The following entries in the Station Log Book shall be in red ink:

(1) Request of the safe clearance.

(2) Issue of the safe clearance.

(3) Adding a clearance point.

(4) Installation of TPGs.

(5) Adding TPG tags (see appendix B).

(6) Temporary lifts and re-hangs of clearance points and TPG tags (see appendix B).

(7) Change of PAI on a multi-shift safe clearance.

f. The following entries in the Station Log Book shall be in green ink:

(1) Release of a safe clearance.

(2) Release of TPG tags (see appendix B).

(3) Removal of TPGs.

(4) Release of a clearance point.

g. Written standard HECP procedures, including switching orders, shall be developed at each work site for all equipment supplied with multiple sources of hazardous energy.

h. Canned clearances should be used as a starting point or reference for the requested clearance, not a final trusted solution.

i. The Responsible Official or designated alternate shall grant approval for the removal from service of any equipment that may affect the mission of the project.

j. All verbal communications shall be repeated back to avoid misunderstanding. This shall include the safe clearance number, equipment under safe clearance, changes to be made, and other relevant information.

k. Prior to beginning work, all Affected Personnel should verify that stored or residual hazardous energy is isolated, relieved, bled off, disconnected, restrained or absent of voltage.

l. All safe clearances shall have a Group Clearance Form (Master Tag) (see appendix B) attached to the PAI copy of the Safe Clearance Order Form (see appendix B) to support the requirements for changes of status and group safe clearances.

m. Locks will be used on all isolation points capable of being locked out. Safe clearance locks will only be applied to isolation points that have been positioned and have a tag hung. Tags may be hung on the lock shank in the case of personal lockouts.

n. When isolation points are not capable of being locked, then tagout only is permitted. When tagout alone is used, the following conditions shall be met:

(1) Personnel shall be instructed in the limitations of tags.

(2) When a safe clearance tag (ENG Form 1925) (see appendix B) is attached to an isolation point, it shall be treated as being a locked point and shall never be operated with the tag attached.

(3) Tags will be placed so they are readily identifiable as an isolation point.

(4) Additional means shall be employed to provide a level of protection equivalent to that provided by a lock. This can consist of any of the following:

(a) Opening both the energy isolating circuit breaker and its associated disconnect.

(b) Removal of a circuit element (i.e., a fuse).

(c) Racking out or removing the circuit breaker.

(d) Opening and applying a tagout to the circuit breaker (energy isolation device), opening the associated control switch or circuit, and applying a tagout device to it.

(e) Placing a blocking mechanism over the operating handle of a disconnect so that the handle is blocked from closing the circuit.

(f) Grounding the circuit upon which work is to be performed.

o. Computer software, or any other type of programming, shall not be used as an isolation point.

p. The safe clearance lock sets shall be stored and maintained by the Issuing Individuals. A safe clearance lock set will be issued to the PAI for isolation point lockout. All excess locks will be placed in the Group Lock Box. After the safe clearance has been released, the complete safe clearance lock set will be returned to the Issuing Individual.

q. Safe clearance lock boxes and Group Clearance Forms (Master Tag) shall normally be located in a specified location as identified in appendix F.

r. The PAI's personal lock will be the first on the Group Lock Box and the last to be removed.

s. The PAI is not required to sign on to the Group Clearance Form (Master Tag), but will be cognizant of all Affected Personnel signing on to their safe clearance and of the status of all work to be performed.

t. All Affected Persons must coordinate with the PAI prior to signing onto a safe clearance. The PAI need not be present for Affected Persons to sign on to their Group Clearance Form (Master Tag) if they have signed on previously. Lacking coordination, and in the absence of the PAI, written approval to sign onto the clearance must be obtained from the PAI's supervisor and provided to the Issuing Individual.

u. Temporary lifts shall be of short duration.

v. For diving operations, both the Government dive inspector and the dive crew supervisor shall be issued a safe clearance.

w. A Corps Quality Assurance Representative (QAR), when authorized, may be issued a safe clearance. The QAR shall not receive a safe clearance for a contractor.

x. Safe clearance violations are taken very seriously since they can result in injury, damage to equipment, or loss of life. The Responsible Official shall ensure that alleged violations are investigated. Violators of this program may require training and retesting.

SAFE CLEARANCE PROGRAM FOR THE CONTROL OF HAZARDOUS ENERGY

Chapter 4 – Emergency Procedures

4-1. SUSPENSION OF REQUIREMENTS. In an emergency (i.e., imminent threat to life or limb), the Responsible Official or the designated representative may modify or suspend any of these HECP requirements temporarily as may be considered necessary to permit proper handling of the specific emergency. The Appendix D provides an example to assist each project in developing their own Personnel Authorizations. This document will include the Responsible Official and designated representative.

4-2. SAFETY OF PERSONNEL. In handling such emergencies, safety of human life shall be given predominant consideration.

4-3. EMERGENCY SWITCHING. If emergency switching is required and the PAI is not on site or not available to be notified, the Issuing Individual or designee may perform emergency switching. If the Issuing Individual is incapacitated, any qualified person who is knowledgeable on the equipment may perform the emergency switching.

SAFE CLEARANCE PROGRAM FOR THE CONTROL OF HAZARDOUS ENERGY

Chapter 5 – Training

5-1. GENERAL. Progressive training on the HECP shall be provided to personnel. Awareness, Affected Personnel, Authorized Individual, and Issuing Individual training and/or testing is provided to individuals commensurate with their responsibilities.

5-2. NEW EMPLOYEES. New employees must be provided awareness training prior to entering an area where energy control procedures are being used.

5-3. AWARENESS TRAINING. Awareness training for visitors, vendors, and other personnel who may be in an area where energy control procedures are being used must include:

a. Instruction regarding purpose of HECP procedures.

b. The prohibition of removing a lockout or tagout device.

c. A safe clearance tag (ENG Form 1925) (see appendix B) requires respect equal to that of a lock.

d. Prohibition from operating equipment.

e. Recognition of HECP locks and tags.

5-4. AFFECTED PERSONNEL TRAINING. Affected Personnel must be trained in:

a. Awareness training.

b. The limitation of safe clearance tags when used without locks.

c. The type and magnitude of energy present in the workplace.

d. Group safe clearance procedures and associated forms.

e. The use of personal locks.

f. Definitions and terms.

5-5. AUTHORIZED INDIVIDUAL TRAINING. Authorized Individual training shall include:

a. Affected Personnel training.

b. Recognizing relevant hazardous energy sources.

c. The methods and means for energy isolation and control.

d. Requirements for personal lockouts and operational permits.

e. Circumstances that require clearances.

f. All clearance procedures, including the following:

(1) Local policies.

(2) Request.

(3) Issue.

(4) Status change.

(5) Release.

(6) Transfer.

(7) TPGs.

5-6. ISSUING INDIVIDUAL TRAINING. Issuing Individual training and abilities shall include:

a. Authorized Individual training.

b. Administrative procedures.

c. Logbook entries.

d. Safe Clearance Software Program.

e. Thorough knowledge of facility system operation and isolation (site-specific by Operating Project).

f. External agency HECP procedures, as applicable (site-specific by Operating Project).

5-7. RETRAINING. HECP retraining for employees shall be provided at least every twelve months, followed by a written assessment, or when any of the following occurs:

a. A periodic inspection reveals deviations from procedures.

b. Inadequacies in knowledge or use of HECP procedures are discovered.

c. There is a change in job assignment or a change in the HECP.

All employees shall complete refresher training within 30 days of the annual requirement to maintain their qualifications for the HECP Personnel Authorizations in appendix D.

5-8. EQUIPMENT CHANGES AND RETRAINING. Equipment and/or system training shall be provided when a change in hazards requires new or different HECP isolation.

5-9. TRAINING DOCUMENTATION. Training documentation shall contain the individual's name, date of training, instructor's name, and outline of training content. Training records shall be maintained at the project for at least two years.

5-10. TRAINING OF CONTRACTORS. While using the Corps' HECP, outside and contractor personnel will be trained to the appropriate level and successfully pass a written test.

SAFE CLEARANCE PROGRAM FOR THE CONTROL OF HAZARDOUS ENERGY

Chapter 6 – Locks and Tags

6-1. LOCKS AND LOCKOUT DEVICES.

a. Locks shall be capable of withstanding environmental conditions and be substantial enough to prevent removal without the use of excessive force or unusual techniques (such as with the use of bolt cutters).

b. Clearance lock sets will be standardized within every facility, and recognizable as HECP locks. Clearance lock sets will be color coded by set.

(1) Clearance locks shall have a colored, solid body design. Colors may not include natural metal (silver, gray, or brass).

(2) Lock shackles should be 1/4 inch in diameter or less and be at least 1 1/2 inches long.

(3) Locks in a color group must be individually identified by means of permanently stamped sequential numbering and/or lettering.

c. Lockout devices should be attached in a manner that holds the hazardous energy isolation device in the safe position specified by the procedure and prevents inadvertent operation.

(1) Lockout hasps should be utilized where multiple lockouts are likely to occur.

(2) Lockout hasps may need to be nonconductive in certain applications.

d. Personal locks shall have the following characteristics and limitations:

(1) A label that includes the name of the person responsible for the lock and his/her work unit department.

(2) Personal locks should be a natural metal color (silver, gray, or brass), a laminated configuration, and may incorporate a colored band at the base for craft identification if desired.

(3) Lock shackles should be 1/4 inch in diameter or less and be at least 1 1/2 inches long.

(4) Each individual’s personal locks should be keyed the same. Lock sets issued to individuals shall be keyed uniquely.

(5) Personal locks shall not be shared or loaned between individuals.

(6) All keys to personal locks must remain under the control of the person to whom the locks are issued.

(7) Master keys shall not be allowed.

(8) Personal locks will be issued by each project.

e. Multi-shift PAI locks will be issued by the Issuing Individual for use during multi-shift safe clearances. Multi-shift PAI locks will be used exclusively for these clearances instead of a personal lock.

f. Only one key will be issued for each clearance or personal lock set. All duplicate personal lock set keys will be destroyed. All duplicate safe clearance lock set keys shall be kept in a separate locked safe to be accessed only by the Responsible Official. No master key shall exist for personal or safe clearance lock sets.

(1) If a key is missing from a set of locks, remove lock set from service until the missing key is accounted for.

(2) When a key is broken or dropped and irretrievable, duplicate the spare key to replace broken/lost key, then return the spare to the Responsible Official for safekeeping.

6-2. TAGS. Tags shall be standardized within every facility (see appendix B).

a. Safe clearance tags shall be red and have content and format equivalent to the example of Red Danger Tag / Danger - Do Not Operate Tag (ENG Form 1925), shown in appendix B. At a minimum, this shall include the clearance number, tag number, initial of the person who positioned the device being tagged, name and initials of the PAI to whom the safe clearance has been issued, the hazardous energy control device being held, and its required configuration (OPEN, CLOSED, ON, OFF).

b. Personal lockout tags shall be red with the name of the holder and the phrases “Personal Lockout - DO NOT OPERATE - DO NOT REMOVE” (see appendix B).

c. A TPG tag shall be red. The tag shall be labeled with the phrase “Temporary Protective Ground – DO NOT REMOVE” (see appendix B). Additional information provided by a card label attached to the TPG tag shall include the associated clearance number, tag number, location of the TPG, initial of the Issuing Individual or designee who placed the tag, and the name and initials of the PAI to whom the TPG has been issued. TPGs are placed after the safe clearance is accepted and are not considered part of the clearance. Locks are not required on TPGs.

d. Caution order tags shall be yellow and have content and format equivalent to the example of Yellow Caution Tag (caution order tag) (ENG Form 1924) (see appendix B).

e. Operational permit tags shall be blue and contain the name of the holder and the phrase “Operational Permit – DO NOT REMOVE” (see appendix B).

6-3. TAG AND LABEL REQUIREMENTS.

a. Tags shall be constructed and printed so that exposure to weather conditions, wet or damp locations, or corrosive environments will not cause the tag to deteriorate or the message to become illegible.

b. Tags shall be attached by means that are: non-reusable; substantial enough to prevent inadvertent or accidental removal; attachable by hand; self-locking; non-releasable, with a minimum unlocking strength of no less than 50 pounds; and which have the basic characteristics of being at least equivalent to a one-piece, all-environment-tolerant nylon cable tie. Clearance tags shall not be hung from locks. A personal lockout tag (see appendix B) may be hung from a personal lock shank.

c. Computer-generated labels containing the required information may be attached to the safe clearance tag (ENG Form 1925) (see appendix B) and/or TPG tags (see appendix B).

d. The safe clearance and TPG tags may be reused by removing the old label or by applying new labels on top of the old.

e. Writing on the tags shall be legible and understandable.

f. Printed text on the tag shall be done with materials that remain legible in the environment to which it is exposed, or the tag shall be suitably covered.

g. Tags will be placed so they are readily identifiable as an isolation point.

SAFE CLEARANCE PROGRAM FOR THE CONTROL OF HAZARDOUS ENERGY

Chapter 7 – Hazardous Energy Control Procedures

7-1. SAFE CLEARANCE REQUEST.

a. The PAI will provide an approved copy of the AHA (NWW Form 385-1) (see appendix B) for the work. The PAI will coordinate with the Issuing Individual and provide the following information on the safe clearance request form (see appendix B for example):

(1) The equipment or system to be cleared.

(2) The purpose/scope of work for the safe clearance.

(3) The energy isolation points to be cleared to perform the work safely.

(4) The physical barriers, TPGs, blind flange/piping blanks, or bulkheads that shall be used, including locations.

(5) The date and time the safe clearance is required.

(6) The estimated length of time the system or equipment shall be out of service and the time required for returning the system or equipment to service in an emergency.

b. The Issuing Individual receiving the safe clearance request shall:

(1) Verify that an approved AHA (NWW Form 385-1) is submitted with the safe clearance request.

(2) Ensure that the type, magnitude, and hazards of the energy to be controlled has been identified.

(3) Notate the receipt of the safe clearance request in the Station Log Book.

(4) Prepare the Safe Clearance Order Form (see appendix B), listing the switching order steps in a sequence that provides the greatest measure of safety.

(5) Prepare the Group Clearance Form (Master Tag) and safe clearance tags (see appendix B).

7-2. ISOLATION PROCEDURES.

a. The Issuing Individual or Issuing Individual Designated Alternate shall:

(1) Ensure the equipment is shut down in accordance with established operational procedures.

(2) Position all equipment controls, valves, switches, disconnects, breakers, etc. in the order listed on the Safe Clearance Order Form (see appendix B). Deviations from this switching order may be required per varying plant conditions at the discretion of the Issuing Individual.

(3) Bleed off or otherwise render safe all stored or residual energy.

(4) Install all lockout/tagout devices (e.g., hasps, chains, etc.) and place each safe clearance tag (ENG Form 1925) (see appendix B).

(5) Initial each safe clearance tag in the space provided.

(6) Initial the Safe Clearance Order Form next to the number for each tag hung.

(7) Notify the PAI that HECP procedures have been completed.

(8) Provide the PAI with a copy of the Safe Clearance Order Form.

(9) Provide a safe clearance lock set and lock box to the PAI.

b. The PAI shall:

(1) Use his/her copy of the Safe Clearance Order Form to verify that each isolation device is in the correct position. Operator assistance may be necessary to validate the positioning.

(2) Verify that all stored or residual energy has been bled off or otherwise rendered safe when feasible.

(3) Secure the energy isolation device with a safe clearance lock.

(4) Initial each safe clearance tag in the space provided.

(5) Initial his/her copy of the Safe Clearance Order Form next to the number for each tag hung.

(6) After all energy isolation points have been locked, place any extra locks and the safe clearance lock set key in a safe clearance lock box.

(7) Place his/her personal lock on the safe clearance lock box.

7-3. ACCEPTING AND ISSUING THE SAFE CLEARANCE.

a. The PAI shall sign the Safe Clearance Order Form (see appendix B) to accept the safe clearance and assume full responsibility for the system or equipment under clearance.

b. The Issuing Individual shall:

(1) Issue the safe clearance to the PAI and make the required entries on the Safe Clearance Order Form.

(2) Log the issuing of the safe clearance in the Station Log Book in red ink including the safe clearance number, purpose, the date and time, and the name of the PAI.

(3) If a partial safe clearance is issued (i.e., not all clearance tags are hung), specify in the Station Log Book and on the Group Clearance Form (Master Tag) those safe clearance tags that are issued.

(4) Attach the Group Clearance Form (Master Tag) and continuation sheets to the PAI's copy of the Safe Clearance Order Form. These continuation sheets shall be numbered sequentially and documented on the Safe Clearance Order Form (see appendix B).

7-4. GROUP SAFE CLEARANCE.

a. It is standard practice in the District that all safe clearances are issued with the capability to be group safe clearances. All clearances are issued with a Group Clearance Form (Master Tag) (see appendix B). The Authorized Individual requesting the safe clearance becomes the PAI when the safe clearance is accepted. The PAI will be kept informed of work status by all Affected Persons. The PAI is responsible for coordination and administration of the group safe clearance.

b. Each Affected Person needing protection under a group safe clearance shall:

(1) Obtain permission from the PAI.

(2) Sign and initial the top of the Group Clearance Form (Master Tag), legibly and in ink, to verify that he/she fully comprehends the details of the job, AHA (NWW Form 385-1) (see appendix B), the energy isolation points, and the lockout/tagout devices installed.

(3) Place his/her personal lock on the Group Lock Box and sign on to the Group Clearance Form (Master Tag) by entering the date, time, and initials.

(4) After completing work, sign off the Group Clearance Form (Master Tag) by entering the date, time, and initials, and remove his/her personal lock from the Group Lock Box.

(5) Keep the PAI updated on status of work.

(6) Sign off the Group Clearance Form (Master Tag) and remove his/her personal lock from the Group Lock Box under the following conditions:

(a) At the request of the PAI.

(b) When work is complete.

(c) When absence of the Affected Person is scheduled (e.g., annual leave).

c. Incidental Personnel will be escorted at all times while in an affected area protected by a safe clearance.

(1) The Escort shall obtain permission from the PAI prior to Incidental Personnel signing onto the Group Clearance Form (Master Tag).

(2) When signing onto the Group Clearance Form (Master Tag), the Escort will annotate his/her escort status in the change of status column by writing the word “Escort” and the number of Incidental Personnel being escorted.

(3) The Escort will place his/her personal lock on the group lock box and sign onto the Group Clearance Form (Master Tag) by entering the date, time, and initials.

(4) Incidental Personnel will sign onto the Group Clearance Form (Master Tag) by entering the date, time, and initials. Each will write the word “visitor” and his/her name in the change of status column. They will not write their names and initials on the top section of the form as Affected Persons do.

(5) Upon exiting the affected area, Incidental Personnel will sign off the Group Clearance Form (Master Tag) by entering the date, time, and initials.

(6) After the Escort has verified that all Incidental Personnel have signed off the Group Clearance Form (Master Tag), he/she will remove his/her lock from the group lock box and sign off the Group Clearance Form (Master Tag).

(7) The Escort should inform the PAI when all Incidental Personnel have signed off the safe clearance and exited the affected area.

7-5. TEMPORARY PROTECTIVE GROUNDS (TPG).

a. TPGs are devices that dissipate energy and are part of the HECP procedures. They are placed after the safe clearance has been accepted, but are not considered to be an energy isolation point of the safe clearance.

b. TPGs shall be tracked and administered on the Safe Clearance Order Form (see appendix B) for accountability and personal safety.

c. The following steps shall be completed to install TPGs. These steps will be completed within the timeframe of a single shift.

(1) The circuit to be grounded shall be under a safe clearance, issued by the Issuing Individual and accepted by the PAI.

(2) The PAI requests the installation of TPGs.

(3) The Issuing Individual shall authorize the installation of TPGs and shall record this authorization in the Station Log Book in red ink.

(4) All TPGs shall be installed by, or under the direct supervision of, a Qualified Electrical Worker.

(5) The PAI shall coordinate with a Qualified Electrical Worker to install TPGs.

(6) The Qualified Electrical Worker who installs the TPGs shall sign on to the Group Clearance Form (Master Tag) (see appendix B) and place his/her personal lock on the Group Lock Box.

(7) The Qualified Electrical Worker shall install the TPGs in accordance with accepted industry standards.

(8) After the TPGs are installed, the Qualified Electrical Worker shall sign off the Group Clearance Form (Master Tag), remove his/her personal lock from the Group Lock Box, and notify the Issuing Individual and the PAI.

(9) The Issuing Individual or Issuing Individual Designated Alternate shall ensure a completed TPG tag (see appendix B) is attached to each TPG in a conspicuous location, and shall initial the tag and the Safe Clearance Order Form next to the number of the TPG installed.

(10) The PAI shall initial the TPG tag and the corresponding entry on his/her copy of the Safe Clearance Order Form.

(11) The Issuing Individual shall record and initial the addition of the TPGs on the Group Clearance Form (Master Tag).

(12) The PAI will verify and initial the addition of the TPGs on the Group Clearance Form (Master Tag).

(13) The Issuing Individual shall record the addition of the TPG tags in the Station Log Book in red ink.

d. The following steps shall be completed to release or temporarily lift TPGs. These steps will be completed within the timeframe of a single shift.

(1) All Affected Persons shall sign off the Group Clearance Form (Master Tag) and remove his/her personal lock from the Group Lock Box.

(2) The PAI shall request the release or lift of the TPG tags and provide the Issuing Individual the safe clearance and TPG tag numbers.

(3) The Issuing Individual shall record the release or lift of the TPG tags on the Group Clearance Form (Master Tag).

(4) The Issuing Individual shall record temporary lifts of TPG tags in the Station Log Book in red ink.

(5) The Issuing Individual shall record TPG tag releases in the Station Log Book in green ink and mark the corresponding entries “released” on the Safe Clearance Order Form. The PAI shall initial this entry.

(6) The Issuing Individual shall ensure that all released or lifted TPG tags (see appendix B) are removed.

(7) The PAI will verify the release or lift of the TPG tags by initialing the Group Clearance Form (Master Tag) and mark “released”, if applicable, on the corresponding entry on the PAI copy of the Safe Clearance Order Form.

(8) The PAI shall coordinate with the Qualified Electrical Worker to remove TPGs.

(9) The Qualified Electrical Worker removing the TPGs shall sign on to the Group Clearance Form (Master Tag) and place his/her personal lock on the Group Lock Box.

(10) All TPGs are to be removed by or under the direct supervision of a Qualified Electrical Worker in accordance with accepted industry standards.

(11) The Qualified Electrical Worker shall report to the Issuing Individual and the PAI when the TPGs are removed.

(12) The Issuing Individual shall record the removal of the TPGs in the Station Log Book.

7-6. ADDING OR RELEASING SAFE CLEARANCE LOCKS AND TAGS (ENERGY ISOLATION POINTS) ON AN EXISTING SAFE CLEARANCE.

a. Changes to the status of safe clearances shall be coordinated between all affected PAIs and the Issuing Individual.

b. The following steps are taken, in the order shown, to add locks and tags (isolation points) to a safe clearance.

(1) The PAI shall:

(a) Ensure that all Affected Personnel have signed off the Group Clearance Form (Master Tag) (see appendix B) and have removed their personal locks from the safe clearance group lock box.

(b) Make a request of the Issuing Individual to add additional energy isolation points and tags to his/her safe clearance.

(2) The Issuing Individual shall:

(a) Verify that all Affected Persons have signed off the Group Clearance Form (Master Tag).

(b) Prepare the additional safe clearance tags (ENG Form 1925) (see appendix B) and add the additional energy isolation points to the Safe Clearance Order Form (see appendix B).

(c) Ensure that the energy isolation devices are correctly positioned, the lockout devices are installed, and the safe clearance tags are hung and initialed.

(d) Place his/her initials next to each clearance point listed on the Safe Clearance Order Form as step 7-6(2)(c) is completed for each unique clearance point.

(3) The PAI shall:

(a) Acquire additional safe clearance locks as necessary.

(b) Verify the position of the energy isolation devices by initialing the new safe clearance tags and applying the additional safe clearance locks.

(c) Update and initial his/her copy of the Safe Clearance Order Form as needed to reflect the added energy isolation points.

(d) Place any (original or additional) safe clearance lock keys used into the safe clearance group lock box.

(e) Ensure that his/her personal lock is on the safe clearance group lock box.

(4) The Issuing Individual shall:

(a) Record and initial the addition of the energy isolation points on the Group Clearance Form (Master Tag).

(b) Enter the additions in the Station Log Book in red ink.

(5) The PAI shall: Verify the status changes by initialing the Group Clearance Form (Master Tag).

c. The following steps are taken to release locks and tags (isolation points) from a safe clearance.

(1) The PAI shall:

(a) Inspect the equipment for proper reassembly, ensure that all tools and equipment have been cleared from the area, and verify that TPGs have been removed (if applicable).

(b) Ensure that all Affected Persons have signed off the Group Clearance Form (Master Tag) and removed their personal locks from the safe clearance group lock box.

(c) Request to the Issuing Individual the release of the desired energy isolation points.

(2) The Issuing Individual shall:

(a) Ensure that all Affected Persons have signed off the Group Clearance Form (Master Tag) and TPGs have been removed (if applicable).

(b) Record and initial the change of status on the Group Clearance Form (Master Tag).

(3) The PAI shall:

(a) Verify the status change by initialing the entry on the Group Clearance Form (Master Tag) and updating and initialing his/her copy of the Safe Clearance Order Form to reflect the released energy isolation points.

(b) Remove his/her personal lock from the safe clearance group lock box and retrieve the key for the safe clearance locks.

(c) Remove the locks from the energy isolation points to be released.

(d) Return the removed locks and the safe clearance lock key to the safe clearance group lock box, and then secure the box with his/her personal lock.

(4) The Issuing Individual shall:

(a) Ensure that the safe clearance tags removed and that isolation devices are positioned as required.

(b) Mark the energy isolation points “released,” and record the date on the Safe Clearance Order Form.

(c) Record the released energy isolation points in the Station Log Book in green ink.

(5) The PAI shall initial the released points on the Safe Clearance Order Form.

7-7. TEMPORARY REMOVAL OF LOCKS AND TAGS (TEMPORARY LIFTS).

a. When locks and tags must be temporarily removed from the energy isolating device and the equipment or system energized for testing or repositioning purposes, the action must be fully coordinated in advance with the Issuing Individual. Employees’ exposure to hazards is high during the transition periods of the temporary lift (changing from a de-energized condition to an energized condition until the system is placed back under safe clearance control). This exposure requires that a detailed sequence of steps is followed in order to ensure all tasks are safely accomplished.

b. All changes to the status of safe clearances shall be coordinated between all affected PAIs and the Issuing Individual.

c. To accomplish a temporary lift safely, the following steps shall be taken, in order.

(1) The PAI shall:

(a) Ensure that all Affected Persons have signed off the Group Clearance Form (Master Tag) (see appendix B) and removed their personal locks from the safe clearance group lock box.

(b) Ensure that all tools and equipment are in the clear and affected equipment has been properly reassembled.

(c) Inform the Issuing Individual of the status of the equipment and request the removal of the appropriate safe clearance tags (ENG Form 1925) (see appendix B).

(2) The Issuing Individual shall:

(a) Verify that all Affected Persons have signed off the Group Clearance Form (Master Tag).

(b) Record and initial the change of status on the Group Clearance Form (Master Tag).

(3) The PAI shall:

(a) Verify the status change by initialing the Group Clearance Form (Master Tag).

(b) Remove his/her personal lock from the safe clearance group lock box and retrieve the key for the safe clearance.

(c) Remove the locks from the energy isolation points to be temporarily repositioned.

(d) Return the safe clearance lock(s) and key to the safe clearance group lock box and then secure the box with their his/her lock.

(4) The Issuing Individual shall:

(a) Ensure the removal of the appropriate safe clearance tags and repositioning of the energy isolation devices.

(b) Record the Temporary Lift in the Station Log Book in red ink.

d. After the Temporary Lift has been performed, an Affected Person may sign on the Group Clearance Form (Master Tag), with permission from the PAI, and may place personal locks on the safe clearance group lock box for work to be done under the temporary lift condition.

e. When the temporary operation is complete, the PAI may re-hang the temporarily lifted tags, release the temporarily lifted tags, or release the safe clearance. For re-hanging the temporarily lifted tags, follow these steps:

(1) The PAI shall:

(a) Notify all affected PAIs and ensure that all Affected Persons are signed off the Group Clearance Form (Master Tag) and that personal locks are removed from the safe clearance group lock box.

(b) Request that the Issuing Individual re-hang the lifted safe clearance tags.

(2) The Issuing Individual shall:

(a) Verify that all Affected Personnel have signed off the Group Clearance Form (Master Tag).

(b) Ensure that all hazardous energy isolation devices are positioned as specified on the Safe Clearance Order Form (see appendix B) and that safe clearance tags are re-hung.

(c) Bleed off or otherwise render safe all stored or residual energy.

(3) The PAI shall:

(a) Verify that the hazardous energy isolation points are restored to the correct position, verify safe clearance tags are re-hung, and re-apply the safe clearance locks.

(b) Return the safe clearance lock key to the safe clearance group lock box, and then secure the box with his/her personal lock.

(4) The Issuing Individual shall:

(a) Record and initial the status change on the Group Clearance Form (Master Tag).

(b) Record the status change in the Station Log Book in red ink.

(5) The PAI shall verify the status change by initialing the Group Clearance Form (Master Tag).

f. For releasing the lifted card, ensure all applicable steps of section 7-6.c of this NWWP are completed.

g. For release of the safe clearance, ensure all applicable steps of section 7-8 of this NWWP are completed.

7-8. RELEASING A SAFE CLEARANCE.

a. The release of safe clearances will be coordinated between all PAIs having safe clearances on the same equipment or systems and the Issuing Individual, in order to accomplish the most efficient return of the equipment or system to service. Safe clearances shall be released using the following steps.

(1) The PAI shall:

(a) Verify that all equipment is properly reassembled, all tools and equipment have been cleared from the area, and all TPGs have been removed.

(b) Ensure that all Affected Persons have signed off the Group Clearance Form (Master Tag) (see appendix B) and have removed their personal locks from the safe clearance group lock box.

(c) Return the Group Clearance Form (Master Tag) and attached sheets to the Issuing Individual and report on the status of the equipment.

(d) Request the release of the safe clearance by signing the appropriate section on the Safe Clearance Order Form (see appendix B).

(2) The Issuing Individual will ensure that all Affected Persons have signed off the Group Clearance Form (Master Tag) and will add the time and date of the release on the Safe Clearance Order Form.

(3) The PAI shall:

(a) Remove all safe clearance locks from the energy isolation devices and return the locks to the Issuing Individual.

(b) Return the safe clearance group lock box to the Issuing Individual as applicable.

(4) The Issuing Individual shall:

(a) As necessary, ensure that all safe clearance tags (ENG Form 1925) (see appendix B) and isolation devices are removed and that the hazardous energy isolation points are restored to their correct positions.

(b) Sign the Safe Clearance Order Form in the appropriate section to identify when the safe clearance tags have been removed.

(c) File the Safe Clearance Order Form, the PAI copy of the Safe Clearance Order Form, and the Group Clearance Form (Master Tag) in the released clearances folder, generally kept in the Control Room.

(d) Inventory the safe clearance lock sets and ensure that the key is with the set.

(e) Record the safe clearance release in the Station Log Book in green ink.

(f) Thoroughly inspect equipment, and if appropriate, test equipment to verify proper operation.

(g) Make any required notifications of equipment availability.

7-9. TRANSFERRING A SAFE CLEARANCE.

a. Either (1) or (2) below must be completed:

(1) If it should become necessary to transfer a safe clearance to a different PAI, a new safe clearance shall be issued and the previously held safe clearance shall be released.

(2) If coordinated between the PAI's and the Issuing Individual, the new safe clearance labels may be placed over the labels on the safe clearance tags (ENG Form 1925) (see appendix B) being released. During the process of this method of transfer, no one shall be signed on or working under the transferring clearance. If this method is used, a new clearance number will be used and applicable portions of sections 7-1 through 7-3 will be followed to accept the new clearance.

b. Responsibility for the safe clearance locks will be assumed by the new PAI. After accepting the safe clearance, the new PAI will apply his/her personal lock on the safe clearance group lock box. The PAI whose safe clearance is being released shall remove his/her personal lock from the safe clearance group lock box.

7-10. MULTI-SHIFT SAFE CLEARANCES.

a. Whenever work requiring a safe clearance must continue across subsequent shifts, a single safe clearance may be issued to all persons holding a specific job title (i.e., shift foreman, shift supervisor, shift lead person, Corps' point of contact). This authorization only applies to PAIs specifically named on the Safe Clearance Order Form (see appendix B).

b. All rules and procedures described in this NWWP shall be adhered to, with the following exceptions.

(1) The first shift PAI must check the hazardous energy control points for proper placement, apply the safe clearance locks, and initial the safe clearance tags (ENG Form 1925) (see appendix B) in the space provided.

(2) He/she shall place the safe clearance lock set key in the safe clearance group lock box, secure it with a multi-shift PAI lock, and accept the safe clearance by signing the Safe Clearance Order Form.

(3) The Issuing Individual shall make the required entries on the Safe Clearance Order Form and record the safe clearance in the Station Log Book.

(4) The subsequent shift PAI must also check and initial the safe clearance tags and sign the Safe Clearance Order Form, denoting acceptance of the safe clearance.

(5) The Issuing Individual shall enter this acceptance in the Station Log Book.

(6) A Group Clearance Form (Master Tag) (see appendix B) will be issued to the Shift PAI. All Affected Persons may be required to sign on/off at the beginning/end of each shift, and remove their personal locks.

(7) Any time the Shift PAI changes, the current Shift PAI shall communicate all conditions of the safe clearance and the work to the oncoming Shift PAI. The current Shift PAI will turn over the Group Clearance Form (Master Tag) and Multi-Shift PAI Lock key and notify the Issuing Individual of the change of PAI.

(8) If a gap in Shift PAI coverage occurs, the Shift PAIs must coordinate a method of turnover communication and transfer of the Group Clearance Form (Master Tag) and Multi-Shift PAI Lock key.

(9) The Issuing Individual shall log the change of PAI in the Station Log Book in red ink.

(10) The active Shift PAI is the only individual authorized to request changes to the safe clearance.

7-11. RELEASE OF THE SAFE CLEARANCE WHEN THE PAI IS ABSENT.

a. In the event the PAI is absent from work, but can be contacted, and delaying the equipment's return to service negatively impacts the mission of the project, the safe clearance can be released by following these steps.

(1) The immediate Supervisor of the PAI and the Issuing Individual contact the PAI jointly, apprising him/her of the need to release the safe clearance.

(2) The PAI requests his/her safe clearance be released and his/her personal lock be removed from the safe clearance group lock box. All communications are repeated back.

(3) The Issuing Individual records this request in the Station Log Book in red ink.

(4) The Supervisor and the Issuing Individual shall review the Group Clearance Form (Master Tag) (see appendix B) to determine the Affected Persons, notify them that the equipment shall be energized or otherwise returned to service, have each sign off the Group Clearance Form (Master Tag), and request removal of his/her personal lock from the safe clearance group lock box, if necessary.

(5) The Supervisor and the Issuing Individual shall inspect the equipment for proper assembly, ensure that all tools and equipment have been cleared from the area, and verify that no TPGs are installed. If TPGs are installed, the Responsible Official must authorize the change of status to remove the TPGs.

(6) The Supervisor shall notify the Responsible Official prior to cutting the personal lock off of the safe clearance group lock box.

(7) The Supervisor shall cut the PAI's personal lock from the safe clearance group lock box, acquire the safe clearance locks key, and remove all locks from the energy isolation devices. The safe clearance locks will be returned to the Issuing Individual.

(8) The Issuing Individual shall enter the verbal release on the Safe Clearance Order Form (see appendix B) and then follow normal procedure for removing the safe clearance tags (ENG Form 1925) (see appendix B) and returning the equipment to service.

b. In the event the PAI is absent from work, but cannot be contacted, and delaying the equipment's return to service negatively impacts the mission of the project, the safe clearance can be released by following these steps.

(1) The PAI's immediate Supervisor must consult with and obtain approval from the Responsible Official and Issuing Individual to have the safe clearance released.

(2) The Supervisor and the Issuing Individual shall review the Group Clearance Form (Master Tag) to determine the Affected Persons, notify them that the equipment shall be energized or otherwise returned to service, have each sign off the Group Clearance Form (Master Tag) and request removal of his/her personal lock from the safe clearance group lock box, if necessary.

(3) The Supervisor and the Issuing Individual shall inspect the equipment for proper assembly, ensure that all tools and equipment have been cleared from the area, and verify that no TPGs are installed. If TPGs are installed, the Responsible Official must authorize the change of status to remove the TPGs.

(4) The Supervisor shall notify the Responsible Official of the status of the equipment.

(5) The Responsible Official shall provide authorization by written document, fax, or email to the Issuing Individual to release the safe clearance. The authorization shall include the safe clearance number, date, time, and the reason for the abnormal release.

(6) The Supervisor shall cut the PAI's personal lock from the safe clearance group lock box, acquire the safe clearance locks key and remove all locks from the energy isolation devices. The safe clearance locks will be returned to the Issuing Individual.

(7) The Issuing Individual shall attach the Responsible Official's release authorization to the Safe Clearance Order Form, enter "See Attached" in the release section of the form, and make corresponding entries in the Station Log Book.

(8) The Issuing Individual shall then follow normal procedures in removing the safe clearance and returning the equipment to service.

(9) Immediately upon the PAI's return to work, the Supervisor shall inform the PAI that his/her safe clearance has been released.

7-12. SAFE CLEARANCE STATUS CHANGES WHEN PERSONNEL ARE ABSENT.

a. No status changes will be made on a safe clearance if the PAI is absent, with the exception of a pre-coordinated, written change request. A pre-coordinated, written change request will be coordinated as follows. (This section will not include adding new isolation points as the PAI would not be available to initial the tags.)

(1) The PAI will coordinate with the Issuing Individual in advance to request a change of status that will occur while the PAI is not physically present.

(2) A written request signed by the Responsible Official will be submitted by the PAI to the Issuing Individual detailing the specific isolation points to be changed. This request will include the reason, the scope of work or any special conditions, specific isolation points, and the requested change of status to those points.

(3) If the status change will require locks to be removed, the PAI will remove safe clearance locks listed in the request, prior to being absent. No Affected Persons shall sign on the safe clearance until the change of status is completed. The

safe clearance tag(s) (ENG Form 1925) (see appendix B) will remain on the isolation point until the change of status is executed.

(4) All pre-removed locks and the Group Clearance Form (Master Tag) (see appendix B) will be kept in the custody of the Issuing Individual for re-hanging as required.

(5) All status changes will be entered on the Group Clearance Form (Master Tag) by the Issuing Individual. The Issuing Individual will enter the word “Pre-coordinated” in the space provided for the PAI’s acknowledging date, time, and initials.

(6) After the executed change of status, all Affected Personnel are required to perform the second check on all changed points of isolation prior to signing onto the clearance.

(7) All Affected Personnel shall enter date, time, and initials in the written request to document the second check of this change of status.

(8) Upon return of the PAI, the PAI will physically verify all status changes (locks re-hung, if applicable) and update the Safe Clearance Order Forms (see appendix B) as applicable.

b. If a status change is required on a safe clearance during the absence of an Affected Person who is signed on the Group Clearance Form (Master Tag) the procedure is as follows.

(1) In the absence of an Affected Person, the PAI shall notify the Affected Person’s immediate Supervisor of the need for a status change.

(2) The immediate Supervisor will attempt to contact the Affected Person and receive his/her approval to be signed off the Group Clearance Form (Master Tag).

(3) The Supervisor shall provide the Issuing Individual with an authorization, signed by the Responsible Official, that includes the Affected Person’s name, the safe clearance number, the date, and the time he/she is to be signed off the Group Clearance Form (Master Tag).

(4) The Issuing Individual shall attach the authorization to the Safe Clearance Order Form, sign the Affected Person off the Group Clearance Form (Master Tag), noting the attached authorization, and make a corresponding entry in the Station Log Book.

(5) The immediate Supervisor will ensure that the Affected Person’s personal lock is cut off the safe clearance group lock box.

(6) The Issuing Individual shall notify the PAI that the Affected Person has been signed off the safe clearance.

(7) Immediately upon the Affected Person's return to work, the immediate Supervisor shall ensure the Affected Person is notified that he/she was signed off the Group Clearance Form (Master Tag), if not previously notified.

7-13. LOSS OF A GROUP CLEARANCE FORM (MASTER TAG).

a. If a PAI loses a Group Clearance Form (Master Tag) (see appendix B), the following steps shall be taken.

(1) The PAI shall immediately contact his/her supervisor, the Issuing Individual, and all Affected Personnel.

(2) The PAI's Supervisor shall inform other crew supervisors, and all work covered by the safe clearance shall stop.

(3) The PAI shall request a new Group Clearance Form (Master Tag) from the Issuing Individual.

(4) The Issuing Individual shall record the loss of the Group Clearance Form (Master Tag) on the Safe Clearance Order Form (see appendix B) and in the Station Log Book in red ink.

(5) The Issuing Individual shall issue a new Group Clearance Form (Master Tag) to the PAI with the current status noted (tags added, released, and lifted). The current status will be retrieved using the Safe Clearance Order Form and Station Log Book.

b. No work shall be performed under the safe clearance until the new Group Clearance Form (Master Tag) has been issued and all Affected Personnel have signed on the new Group Clearance Form (Master Tag).

7-14. SAFE CLEARANCES AT REMOTE SITES.

a. At unattended, automatic, or remote sites, the PAI is responsible for the proper clearing, tagging, and locking of equipment in accordance with the provisions of this NWWP.

b. All required Station Log Book entries shall continue to be made by the Issuing Individual, even though he/she is not the one hanging the safe clearance tags (ENG Form 1925) (see appendix B).

c. All necessary switching and clearing operations shall be performed by the PAI at remote sites.

d. At remotes sites, the PAI may also be responsible for the following.

(1) Making all necessary arrangements for interruption of services, including notification of customers.

(2) Coordinating with agencies and other entities to ensure isolation of systems that are to be cleared.

(3) Ensuring all energy-isolating points are positioned exactly as specified by the Safe Clearance Order Form (see appendix B) and ensuring all energy isolation points are locked and tagged accordingly.

(4) Ensuring that locks and tags are affixed to hold the energy isolating device in the safe position.

(5) Ensuring the equipment being placed under safe clearance is safe for the work to be performed.

(6) Ensuring equipment is ready for service after work has been completed.

(7) Ensuring operation of equipment under safe clearance is coordinated with affected agencies, customers, or other entities.

e. At remotes sites, all Affected Persons shall perform a second check of the safe clearance isolation points prior to signing onto the Group Clearance Form (Master Tag) (see appendix B).

f. Upon completion of work, the PAI shall inform the Issuing Individual and return the completed Safe Clearance Order Form as soon as practical.

SAFE CLEARANCE PROGRAM FOR THE CONTROL OF HAZARDOUS ENERGY

Chapter 8 – Personal Lockouts and Operational Permits

8-1. PERSONAL LOCKOUT.

a. Personal lockout provides for the restricted authorization for designated personnel to take designated equipment out of service for limited maintenance.

b. Appendix D provides an example to assist each project in developing their own Personnel Authorizations, which identifies the only authorized project personnel to whom personal lockouts shall be issued.

c. Appendix C provides an example to assist each project in developing their own Applicable Equipment for Personal Lockout/Operational Permits, which is a list of equipment that may be removed from service for maintenance purposes without a safe clearance. Personal lockouts will be issued only on equipment indicated on this list. The provisions in this section must be followed.

d. Equipment designated for personal lockout use must meet the following requirements:

(1) It must be rated at 480 volts or lower.

(2) It must not have potential for stored or residual energy or accumulation of stored energy which could be dangerous after shutdown.

(3) It must not create hazards for other employees.

(4) It must require no more than four (4) isolation points.

(5) It must be maintained under a personal lockout during one maintenance work shift only.

(6) It must not require TPGs.

e. When a personal lockout is requested that requires more than one isolation point, the Authorized Individual shall:

(1) Prepare an AHA (NWW Form 385-1) (see appendix B) that identifies all hazards or have an approved Position Hazard Analysis (NWW Form 385-47) (see appendix B) on file.

(2) Submit a step-by-step written procedure for isolation, approved by the Issuing Individual, specific to the equipment being removed from service.

f. The determination of whether a safe clearance or personal lockout is required shall be the Issuing Individual's responsibility. The Issuing Individual shall not issue a personal lockout if a safe clearance is requested.

g. Protection shall be mutually agreed upon by the Issuing Individual and the Authorized Individual.

h. The Issuing Individual shall repeat back personal lockout requests.

i. A personal lockout will not be used on isolation points already tagged out under a safe clearance and vice versa.

j. Isolation points, if lockable, must be locked using a personal safety lock. If not lockable, a tag must be attached in the same manner and following the same requirements for a "tag only" isolation point used in a safe clearance. Personal lockout tags (see appendix B) will be treated with the same respect as a safe clearance tag (ENG Form 1925) (see appendix B).

k. The lock and tag will only be placed and removed by the Authorized Individual who was issued the personal lockout.

l. More than one personal lockout can be issued on the same equipment or system under the following conditions:

(1) All energy isolation points must be capable of being locked.

(2) All persons issued personal lockout on the equipment or systems must be working together on the same job and must hang their own locks.

(3) One person will be identified as the PAI and will assume responsibility for coordinating work performed under the personal lockout.

(4) The personal lockout PAI will perform all switching, will be the first to place his/her locks on the isolation points, and will be the last to remove his/her locks from the isolation points.

m. If the equipment cannot be returned to service before the end of the work shift, it shall be placed under a safe clearance. Since equipment cannot be under a personal lockout and a safe clearance at the same time, the transfer should occur simultaneously.

n. A record of each personal lockout issued and released shall be entered in the Station Log Book.

8-2. OPERATIONAL PERMITS.

a. Operational permits are issued to allow operation of equipment for maintenance, troubleshooting, or testing purposes by Authorized Individuals.

b. Appendix D provides an example to assist each project in developing their own Personnel Authorizations, which identifies the only authorized project personnel to whom operational permits shall be issued.

c. Appendix C provides an example to assist each project in developing their own Applicable Equipment for Personal Lockout/Operational Permits, which is a list of equipment that may be removed from service for maintenance purposes without a safe clearance. Operational permits will be issued only on equipment indicated on this list. Equipment designated for an operational permit must meet the following requirements:

(1) It must be rated for circuits of 480 volts or lower.

(2) It must be easily operated from one location.

(3) It must not be in the mainstream that would affect the facility mission.

(4) It must be released by the end of the maintenance shift.

d. Operational permits may be issued in conjunction with a personal lockout.

e. Operational permits will not be issued on a point or system if another Authorized Individual has a safe clearance, personal lockout, or an operational permit on that point or system.

f. The operational permit tag (see appendix B) will be placed on the point of operation before the equipment is operated. If this is not possible, then the tag shall be attached as close to the device as safety will allow and in a location that shall be immediately obvious to anyone attempting to operate the device.

g. The operational permit tag will only be placed and removed by the individual that is issued the operational permit.

h. The Authorized Individual will remain with the equipment while it is being operated unless an alternate procedure was agreed upon between the Authorized Individual and the Issuing Individual.

i. A record of each operational permit issued and released shall be kept in the Station Log Book.

SAFE CLEARANCE PROGRAM FOR THE CONTROL OF HAZARDOUS ENERGY

Chapter 9 – Caution Orders

9-1. PURPOSE. Caution orders shall not be used to provide personal protection or be used in lieu of a safe clearance. A caution order is issued to direct attention to abnormal, hazardous, or unusual conditions or to special operating instructions to be followed.

9-2. GENERAL. Caution orders must be approved and documented by the Issuing Individual. Outstanding caution orders shall be reviewed at least every six months by the Issuing Individual to insure the caution order is still needed.

9-3. IDENTIFICATION. Each caution order shall be assigned a number, using an "X" as a prefix. Caution orders shall be numbered consecutively and entered in blue ink.

9-4. ISSUED AND RELEASED. Caution orders shall be issued, released, and tracked in the Station Log Book in blue ink. Caution orders are typically issued to the shift operator.

9-5. DOCUMENTATION. Caution orders must be documented in the Station Log Book and include the caution order number, the equipment under caution order, and the date and time of issue and release.

9-6. CAUTION ORDER FORM (ENG FORM 1928). This form will be prepared for each caution order issued. This will supplement the Station Log Book entry. Caution Order Forms (see appendix B) shall be maintained separately and retained for a minimum of two years.

9-7. CAUTION ORDER TAG (ENG FORM 1924). This tag will be properly completed and attached to appropriate control devices. Newly purchased/replacement tags shall be yellow (see appendix B).

SAFE CLEARANCE PROGRAM FOR THE CONTROL OF HAZARDOUS ENERGY

Chapter 10 – Outside/Contractor Personnel

10-1. GENERAL. When non-Corps personnel perform construction or maintenance at Corps-operated facilities and are exposed to hazardous energy, the non-Corps employees shall also be protected by HECP procedures. The Responsible Official may require the non-Corps entity to utilize the Corps HECP procedures in this NWWP.

10-2. SUBMITTALS. The non-Corps entity will provide its HECP and procedures to the Responsible Official as a submittal, which must be accepted by the Responsible Official prior to beginning work. Upon the Responsible Official's acceptance of the submittal, the non-Corps entity shall implement its HECP procedures on their equipment or downstream of the Corps isolation point.

10-3. COORDINATION. When safe clearances will be required to safely perform the work, the appropriate Corps individual will discuss the HECP requirements with the non-Corps representative to ensure that he/she understand the hazards, procedures, and limits of the safe clearance.

a. The Corps individual and the non-Corps representative shall discuss the procedures to be used and ensure that their personnel understand and comply with the restrictions of each other's HECP.

b. When the system or equipment creating the exposure can be removed from service without a clearance, and after coordination with Corps representative, the non-Corps entity shall implement their HECP procedures.

c. When the non-Corps entity utilizes the Corps HECP procedures, the Corps will be represented by a Point of Contact (POC) that will coordinate the HECP procedures with the non-Corps entity. The POC will have an identical (parallel) clearance to the non-Corps entity.

d. One set of safe clearance locks and lock box is acceptable for use with the parallel clearances.

e. When the Corps HECP is utilized, the safe clearance locks, tags, and documentation will be provided by the Corps entity, with the exception of personal locks.

f. Service contract personnel will be allowed to utilize the personal lockout and operational permit process for specific systems. The Issuing Individual shall be notified before any work is started and upon completion and return to service. Appendix D provides an example to assist each project in developing their own Personnel Authorizations, this list of authorized personnel includes contractors.

10-4. INCIDENTAL PERSONS. Incidental Persons are individuals who may have access inside a clearance boundary but are not physically performing work.

a. Incidental Persons include escorted visitors and vendors (see section 2-7.)

b. Incidental Persons need to be aware of hazards, safe practices, and required personal protective equipment (PPE) prior to entry into the clearance boundary.

SAFE CLEARANCE PROGRAM FOR THE CONTROL OF HAZARDOUS ENERGY

Chapter 11 – Committees, Inspections, and Program Review

11-1. DISTRICT SAFE CLEARANCE COMMITTEE. The District Safe Clearance Committee shall consist of the District Safety Manager, District Chief of Technical Support Branch, two United Power Trades Organization (UPTO) Subject Matter Experts, and the Responsible Official or designated representatives from each project. Input for special topics may be given from representatives of Construction and Natural Resource Management. The Walla Walla District UPTO Vice President will designate the two UPTO Subject Matter Experts in writing.

11-2. PROJECT SAFE CLEARANCE COMMITTEE. Project Safe Clearance Committees shall, at a minimum, consist of the Responsible Official's designated representative and one representative from each of the affected crews. UPTO may designate a representative to this committee.

11-3. PERIODIC INSPECTIONS. Periodic inspections shall be conducted to ensure all requirements of the HECP are being followed and to identify any weaknesses in the program or procedures, in employee training, or in enforcement of the requirements.

a. The Responsible Official shall ensure the periodic inspections are performed. Internal and external inspection teams shall review the project on a yearly, alternating basis.

b. The internal inspection team shall consist of the Project Safe Clearance Committee.

c. The external inspection team shall, at a minimum, consist of the District Safety Manager, one external Chief of Operations, and one external UPTO designated representative for the hydropower projects.

d. Periodic inspections of HECP procedures shall cover at least one personal lockout, at least three group safe clearances (with one being an active clearance), and one remote site clearance, as applicable.

e. Inspections shall be documented and include team member names, dates of inspection, and deficiencies/weaknesses noted.

f. The original inspection report shall be sent to the District Safety Office, and a copy shall be sent to the Responsible Official and the Project Safe Clearance Committee.

g. Inspection reports must be maintained for a minimum of two years.

11-4. CORRECTIVE ACTION. Corrective actions taken to resolve or improve programmatic weaknesses shall be communicated to employees, and documentation will be retained by the Responsible Official for future inspections.

FOR THE COMMANDER:

/s/ 5/22/12
RODNEY S. BAKER
MAJ, EN
Deputy Commander

Appendixes A-G

DISTRIBUTION:
Intranet and 2 copies to Library

SAFE CLEARANCE PROGRAM FOR THE CONTROL OF HAZARDOUS ENERGY

APPENDIX A

DEFINITIONS

SAFE CLEARANCE PROGRAM FOR THE CONTROL OF HAZARDOUS ENERGY

APPENDIX A

Definitions

Affected Personnel – Employees whose jobs require them to work in an area protected by a safe clearance and to sign onto a Group Clearance Form (Master Tag) (see appendix B).

Authorized Individual – An individual authorized by the Responsible Official to request and hold clearances. An Authorized Individual becomes a Principal Authorized Individual (PAI) if they are holding the clearance.

Canned Clearance – A safe clearance with HECP procedures that have been standardized for a particular system.

Caution Order – A procedure to direct a cautious approach to abnormal conditions or equipment, or to special operating instructions that are to be followed.

Caution Order Form (Eng Form 1928) (see appendix B) – A form to record information pertinent to each caution order issued.

Caution Order Tag (ENG Form 1924) (see appendix B) – The tag that is attached to equipment to implement the caution order procedure.

Clearance Holder – An Authorized Individual who has requested and has been issued a safe clearance. This person is also referred to as the PAI.

Clearance Point – A device that is positioned according to the requirements of the Safe Clearance Order Form (see appendix B) and that provides isolation of hazardous energy.

Corps Quality Assurance Representative (QAR) – A Corps employee designated in writing by the Contracting Officer to provide quality assurance for a contract.

Diving Inspector – An authorized Corps employee providing Government inspection of Corps or contractor diving operations.

Energy Isolation Points – A valve, blind, switch, disconnect, breaker or other point used to isolate any form of energy. The term does not include push buttons, selector switches, and other control circuit type devices.

Energy Source – Includes electrical, mechanical, hydraulic, pneumatic, chemical, thermal, nuclear, stored, or other energy.

Group Clearance Form (Master Tag) (see appendix B) – A form used to document who is actively working under the clearance and has a personal lock on the lock box; and to convey change of status conditions.

Group Safe Clearance – A lockout and tagout procedure used when servicing and/or maintenance is performed by a crew, craft, department, or other group, and which affords each employee a level of protection equivalent to that provided by the use of an individual safe clearance.

Group Lockbox – A container used during group safe clearance to secure keys for the safe clearance locks. Affected personnel place their personal locks on the container to prevent access to the isolation keys.

Hazardous Energy – Any form of energy which, if uncontrolled, may cause damage to equipment, personal injury, or other undesirable consequences.

Hazardous Energy Control Program (HECP) – The program that includes, as a minimum, identification of roles and responsibilities, energy control procedures, identifying energy control locks and tags, procedures for removing energy control locks and tags, employee training, procedure inspections and program review. The HECP shall be developed at the USACE Division or District level to insure the greatest level of consistency among facilities and areas of responsibility.

Hazardous Energy Control Program (HECP) Procedures – The written safe clearance procedure, as identified in this NWWP, that clearly and specifically identifies the hazardous energy sources and outlines the scope, purpose, responsibilities, and procedural steps for lockout/tagout and the requirements for testing the effectiveness of energy control measures utilized for the control of the hazardous energy. Switching orders are the elements of HECP Procedures.

Incidental Persons – Visitors, vendors, and other personnel who may be in an area where energy control procedures are being used.

Isolation – An activity that physically prevents the transmission or release of energy.

Issuing Individual – A qualified person who is authorized by the Responsible Official to issue a safe clearance. The Issuing Individual is a person with jurisdiction over an area or project; for example, he or she may be the operator in charge of a shift at a powerhouse, lock, or substation, the supervisory engineer of a project or facility, or other supervisory person having operational control of systems to be placed under HECP procedures.

Issuing Individual Designated Alternate – Typically a Lap Operator or I Grade Operator that is delegated specific tasks by the Issuing Individual. Delegated tasks do not include authorizing status changes, issuing clearances, accepting clearance releases, or making logbook entries.

Lockout Device – Hardware utilized to secure an energy isolation device in the safe or off position, and that shall accept a safe clearance or personal lock.

Mission-Essential Equipment – The project mission includes providing slack water navigation, generating electrical power, fish passage, flood control, and preservation of the environment. Equipment is mission-dependent if taking it out of service would prevent navigation, power generation, fish passage, cause environmental harm, etc. The Operating Project Manager or a designated alternate must grant approval for the removal from service of any equipment that may affect the mission of the project.

Multi-Shift Safe Clearance – A safe clearance that is used to cover work that continues across subsequent day, evening, or night shifts. Multi-shift safe clearances are transferred from the shift supervisor on one shift to the shift supervisor on the next shift, and so on.

Operational Permit – The authorization to operate systems or equipment for testing or troubleshooting purposes.

Operational Permit Tag (see appendix B) – a tag that identifies that an operational permit has been issued to an individual.

Operating Project Manager – The person in charge of a multipurpose hydroelectric or flood damage reduction facility.

Personal Locks – Uniquely keyed safety locks issued to, or available to, personnel to be used only for HECP procedures. They shall identify the person (by name) to whom they are issued.

Personal Lockout – A process used to isolate equipment listed on Applicable Equipment for Personal Lockout/Operational Permits, which is a list of equipment that may be removed without a safe clearance (appendix C provides an example to assist each project in developing their own list).

Personal Lockout Tag (see appendix B) – A tag required to be used during personal lockout/tagout.

Physical barriers – Any device, valve, door, shield, bulkhead, insulation blanket, or other physical device that is used to create a barrier between hazardous energy and personnel and equipment.

Point of Contact (POC) – A Government representative who coordinates construction work at the project and holds parallel clearances to the non-USACE entity.

Principal Authorized Individual (PAI) – An Authorized Individual who is holding an active safe clearance.

Qualified Electrical Worker – A person who, by experience or training, is authorized to perform unlimited or limited work on authorized electrical equipment. In this case, the reference is to those who will be installing or removing portable grounds.
Red Danger Tag / Danger – Do Not Operate Tag (ENG Form 1925) (see appendix B) – See Safe Clearance Tag.

Responsible Official – The person in charge of the project or facility who designates the Issuing and Authorized Individuals and who approves and directs the HECP. This is normally the Operating Project Manager.

Routine Safe Clearance – See Canned Clearance.

Safe Clearance – A definite operating arrangement whereby a PAI, acting individually or as a representative of a group, removes designated equipment from service by lockout or tagout.

Safe Clearance Locks – Hazardous energy control locks that are placed on or removed from energy isolation points by the PAI.

Safe Clearance Request Form (see appendix B) – A form on which requests for safe clearances, safe clearance releases, and all other pertinent data in connection with safe clearances is maintained. Computer generated facsimiles are authorized.

Safe Clearance Software Program – An automated database that houses forms and manages HECP procedures. It is managed by the Issuing Individual at each project.

Safe Clearance Tag (ENG Form 1925) (Also known as Red Danger Tag / Danger – Do Not Operate Tag) (see appendix B) – A tag for attaching to each operational control point of equipment or entry point to an area requiring a safe clearance. Computer generated labels containing appropriate information can be attached to the tag.

Stored Energy – Energy (electrical, mechanical, chemical, or gravity, etc.) that might be found in a charged capacitor, a loaded spring, chemical solutions, or similar forms.

Station Log Book – The official written record of events at the facility.

Switching Orders – This is the portion of the HECP that contains the specific instructions for switching, valving, or other operational steps needed in preparing equipment for a safe clearance (lockout/tagout). It is used for clearing out equipment and installing the lockout/tagout in a particular order, which results in the safest conditions.

Tagout – The placement of a safe clearance tag (ENG Form 1925) (see appendix B) on an energy isolation device, in accordance with established procedures, to indicate that

the energy isolation device and equipment being controlled may not be operated until the tag is removed.

Temporary Protective Ground (TPG) – A portable grounding cable which, depending on the specific grounding procedures and requirements, is used to protect personnel and equipment from electrical energy.

TPG Tags (see appendix B) – A red tag used as part of a Hazardous Energy Control Program (HECP) procedure to assure accountability and control of a TPG and is not considered an isolation point.

SAFE CLEARANCE PROGRAM FOR THE CONTROL OF HAZARDOUS ENERGY

APPENDIX B

SAMPLE HAZARDOUS ENERGY CONTROL PROGRAM (HECP) FORMS AND TAGS

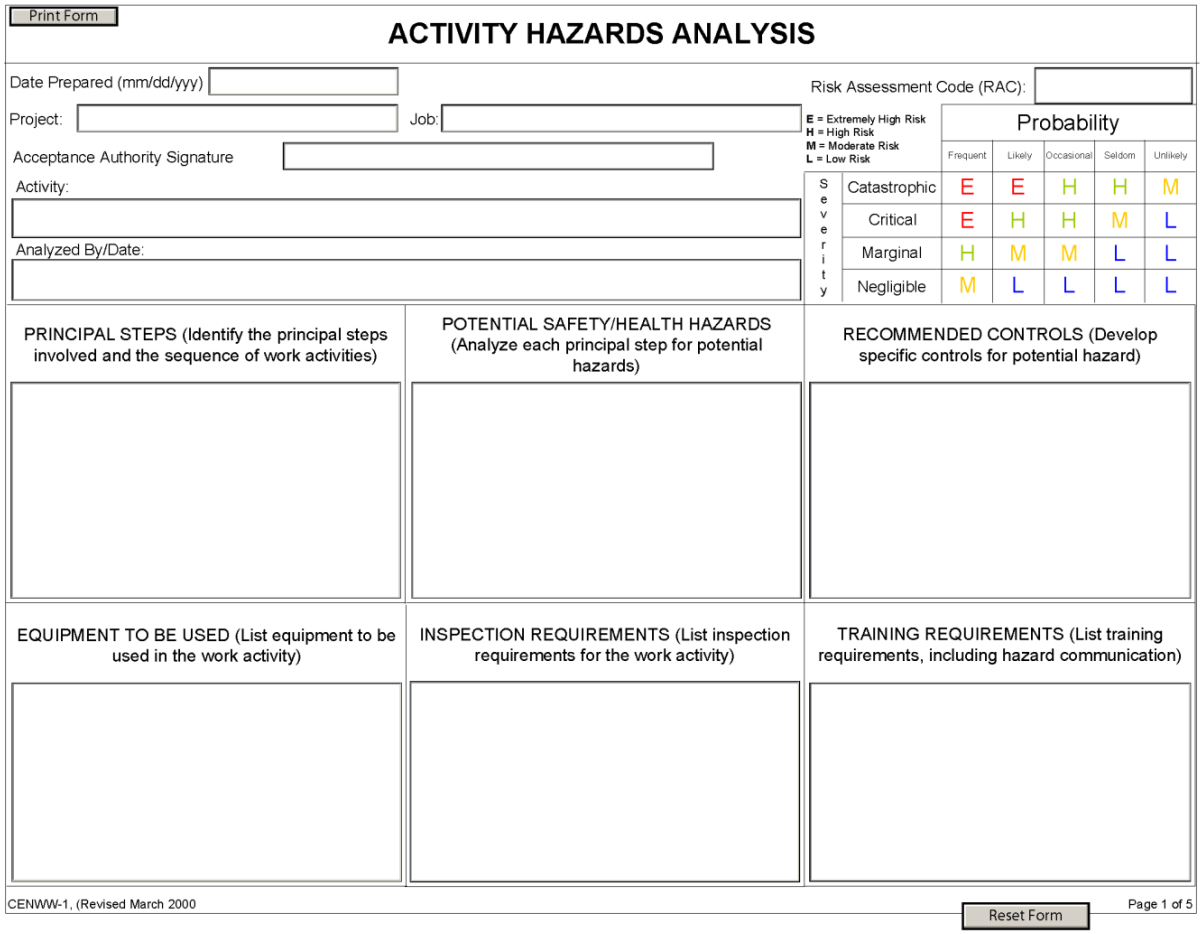
TABLE OF CONTENTS

SAFE CLEARANCE PROGRAM FOR THE CONTROL OF HAZARDOUS ENERGY

APPENDIX B

Sample Hazardous Energy Control Program (HECP) Forms and Tags

Figure 1. Activity Hazards Analysis (AHA) (NWW Form 385-1) – SAMPLE



Print Form

ACTIVITY HAZARDS ANALYSIS

Date Prepared (mm/dd/yyy)

Risk Assessment Code (RAC):

Project: Job:

Acceptance Authority Signature

Activity:

Analyzed By/Date:

E = Extremely High Risk
H = High Risk
M = Moderate Risk
L = Low Risk

Severity	Probability: Frequent	Likely	Occasional	Seldom	Unlikely
Catastrophic	E	E	H	H	M
Critical	E	H	H	M	L
Marginal	H	M	M	L	L
Negligible	M	L	L	L	L

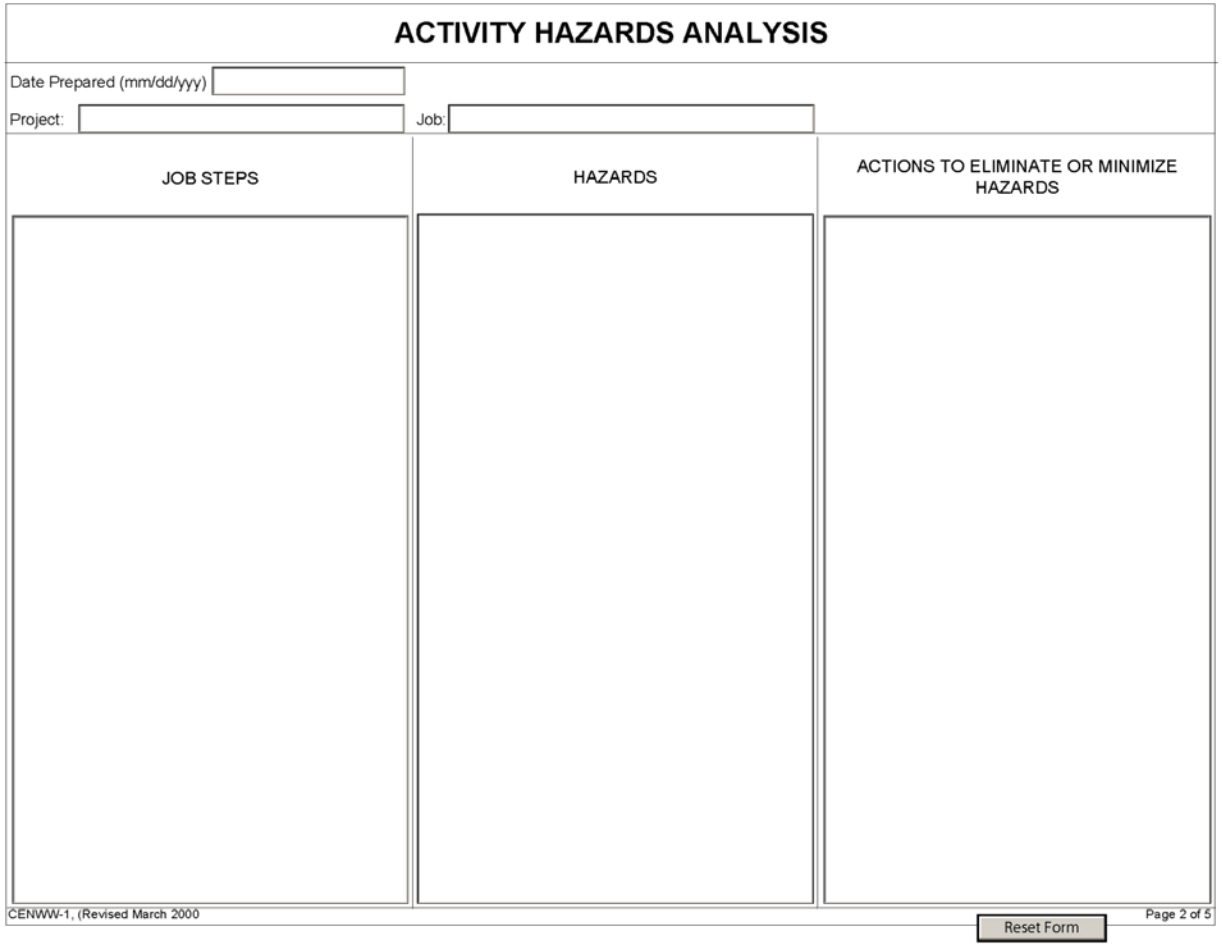
PRINCIPAL STEPS (Identify the principal steps involved and the sequence of work activities)	POTENTIAL SAFETY/HEALTH HAZARDS (Analyze each principal step for potential hazards)	RECOMMENDED CONTROLS (Develop specific controls for potential hazard)

EQUIPMENT TO BE USED (List equipment to be used in the work activity)	INSPECTION REQUIREMENTS (List inspection requirements for the work activity)	TRAINING REQUIREMENTS (List training requirements, including hazard communication)

CENWW-1, (Revised March 2000)

Reset Form

Page 1 of 5



ACTIVITY HAZARDS ANALYSIS

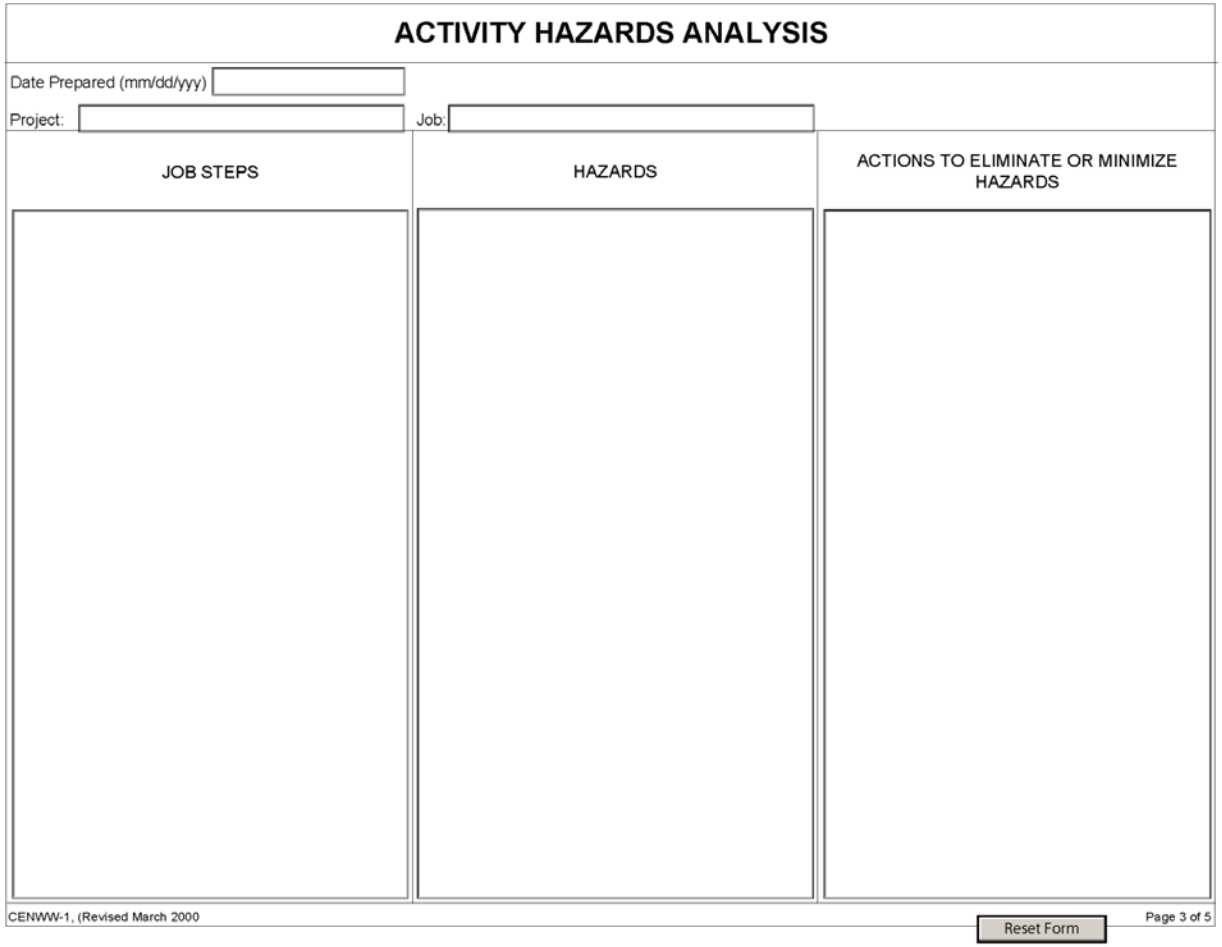
Date Prepared (mm/dd/yyyy)

Project: Job:

JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS

CENWW-1, (Revised March 2000) Page 2 of 5

Reset Form



ACTIVITY HAZARDS ANALYSIS

Date Prepared (mm/dd/yyyy)

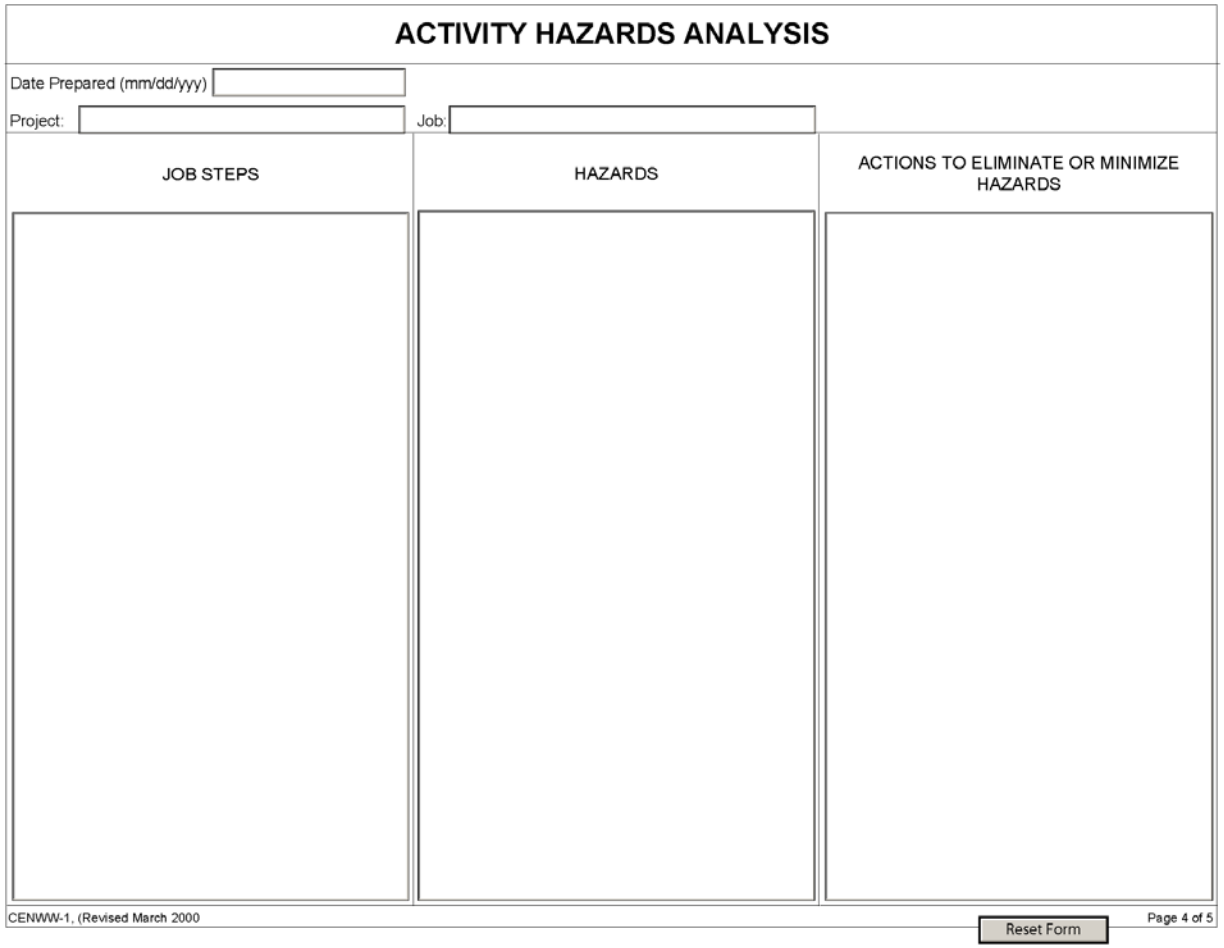
Project: Job:

JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS

CENWW-1, (Revised March 2000

Reset Form

Page 3 of 5



ACTIVITY HAZARDS ANALYSIS

Date Prepared (mm/dd/yyyy)

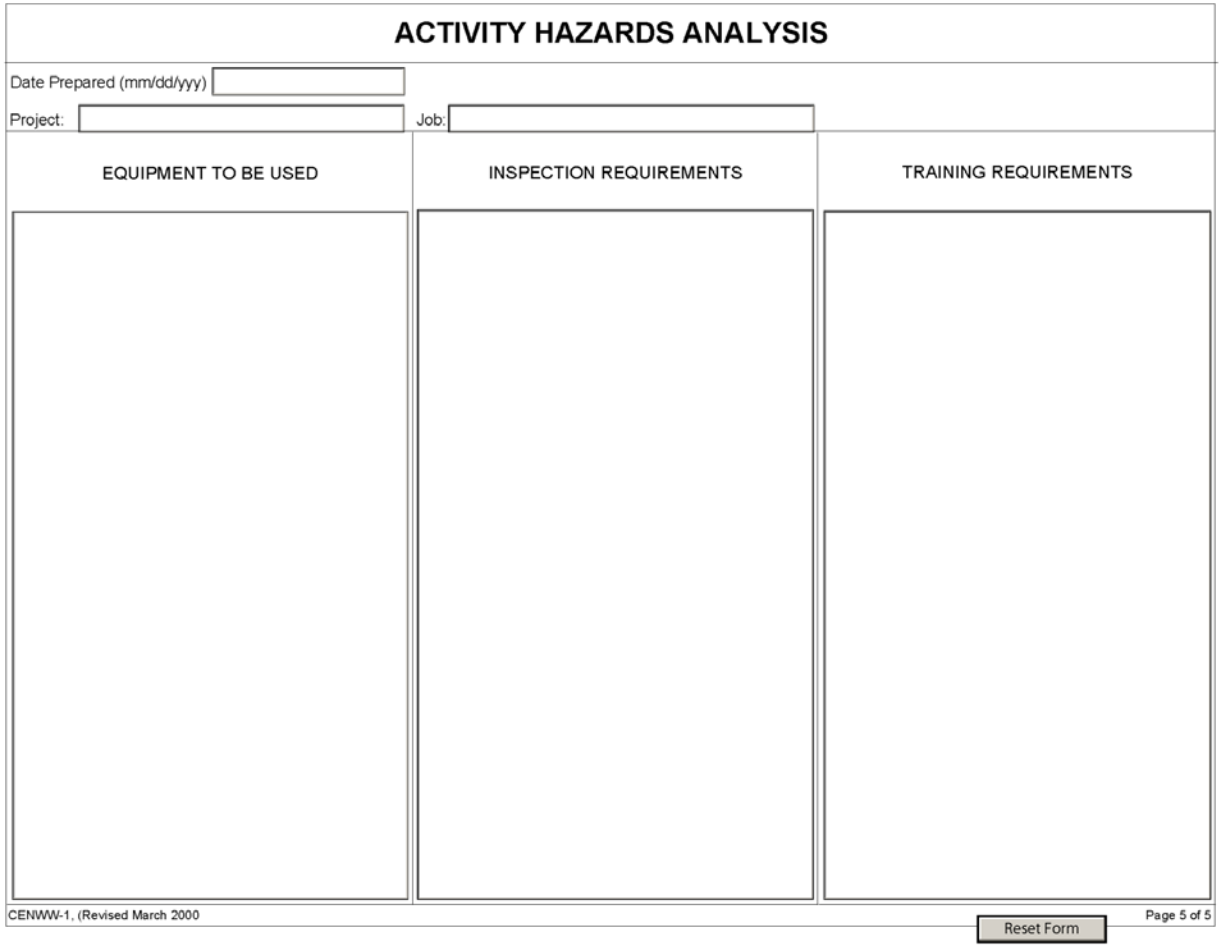
Project: Job:

JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS

CENWW-1, (Revised March 2000

Reset Form

Page 4 of 5



ACTIVITY HAZARDS ANALYSIS

Date Prepared (mm/dd/yyyy)

Project: Job:

EQUIPMENT TO BE USED	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS

CENWW-1, (Revised March 2000

Reset Form

Page 5 of 5

Figure 2. Caution Order Form (ENG Form 1928) – SAMPLE

LOCATION	US ARMY CORPS OF ENGINEERS **CAUTION ORDER** For use of this form, see ER 385-1-31; the proponent agency is CESO-E	CAUTION ORDER NUMBER

CAUTION ORDER REQUESTED BY	
NAME AND TITLE *(Last, First MI.)*	LOCATION PHONE NUMBER
REASON FOR CAUTION ORDER	
EQUIPMENT COVERED BY CAUTION ORDER	
CONDITIONS OR SPECIAL INSTRUCTIONS	
DELAY _____ MINUTES BEFORE RECLOSING SWITCH.	
CAUTION ORDER TAG PLACED AT	

CAUTION ORDER ISSUED TO NAME *(Last, First MI.)*	DATE *(YYYYMMDD)*	TIME *(0001-2400 hours)*	SIGNATURE
CAUTION ORDER ISSUED BY NAME *(Last, First MI.)*	DATE *(YYYYMMDD)*	TIME *(0001-2400 hours)*	SIGNATURE
CAUTION ORDER RELEASED BY NAME *(Last, First MI.)*	DATE *(YYYYMMDD)*	TIME *(0001-2400 hours)*	SIGNATURE
CAUTION ORDER TAG REMOVED BY NAME *(Last, First MI.)*	DATE *(YYYYMMDD)*	TIME *(0001-2400 hours)*	SIGNATURE

ENG FORM 1928, AUG 1994 PREVIOUS EDITIONS ARE OBSOLETE. VERSION 1.0

Figure 3. Caution Order Tag (Yellow Caution Tag) (ENG Form 1924) – SAMPLE

Caution order tags shall be yellow and able to withstand environmental conditions.

Figure 4. Group Clearance Form (Master Tag) – SAMPLE

Lower Granite	MASTER TAG	Sheet 1 of
Clearance No.	**Date Issued:**	**Issued To:**
Systems and Hazards to be Cleared:		

Other Personnel Working Under This Clearance:

Name	Init	Name	Init	Name	Init

Individual Crew Member Accountability

Each crew member is to initial onto this MASTER TAG before starting work under this Clearance and after fully comprehending the details of the job and the limits of the clearance. Each crew member must initial off this sheet upon request from the Clearance Holder or upon completion of their work under this Clearance. Attached to this sheet will be a copy of the SAFE CLEARANCE ORDER FORM. The Clearance Holder will be responsible for keeping the SAFE CLEARANCE ORDER FORM updated to coincide with the master SAFE CLEARANCE ORDER FORM. When the Clearance is released, the MASTER TAG will be attached and filed with the master SAFE CLEARANCE ORDER FORM. All crew members must be signed off this form before the clearance can be released.

	ON			*OFF*		
Change of Status:	Date	Time	Init	Date	Time	Init

Lower Granite	**MASTER TAG** (CONTINUATION SHEET)	Sheet of
Clearance No.	**Date Issued:**	**Issued To:**
Systems and Hazards to be Cleared:		

Change of Status:	*ON* Date	Time	Init	*OFF* Date	Time	Init

Figure 5. Operational Permit Tag – SAMPLE

Operational permit tags shall be blue and able to withstand environmental conditions.

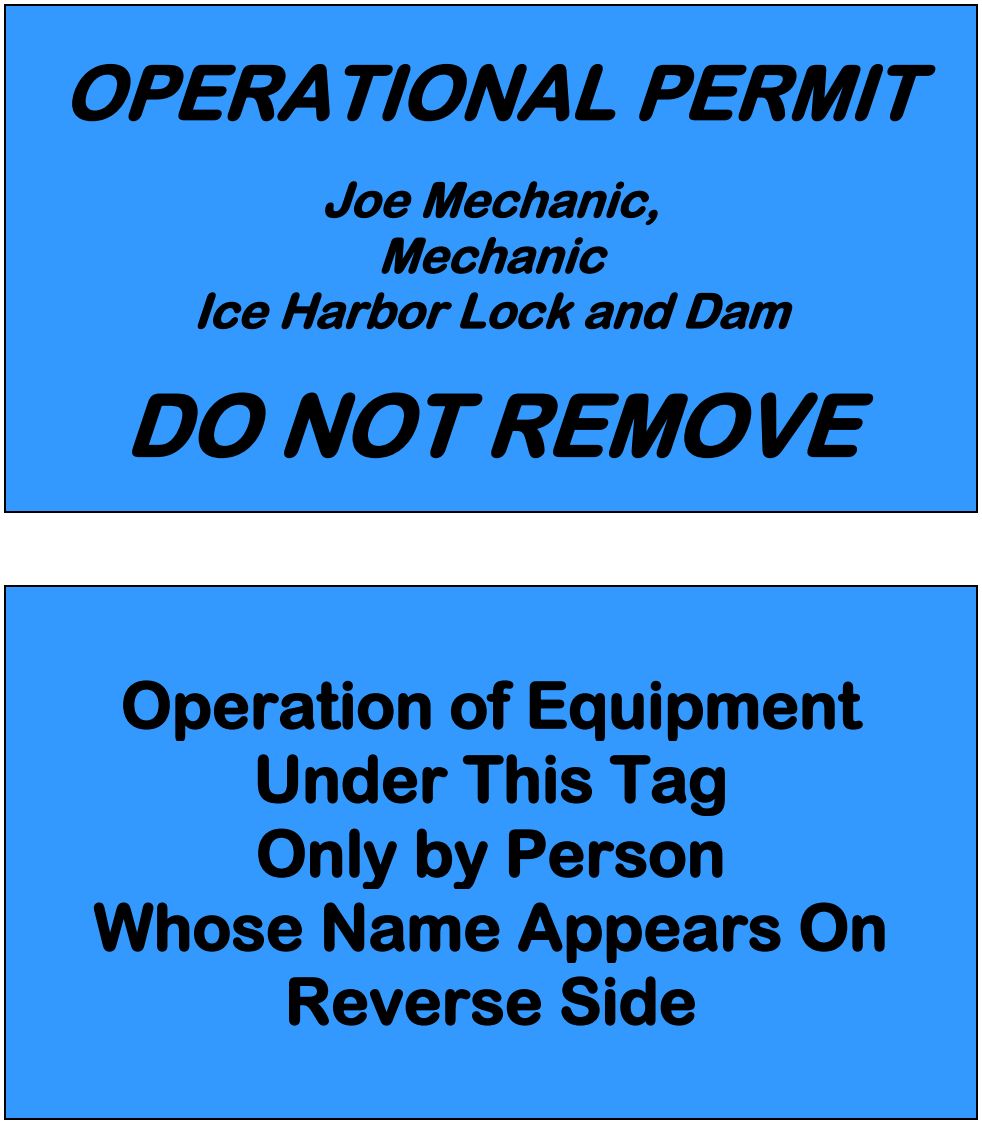


Figure 6. Personal Lockout Tag – SAMPLE

Personal lockout tags shall be red and able to withstand environmental conditions.

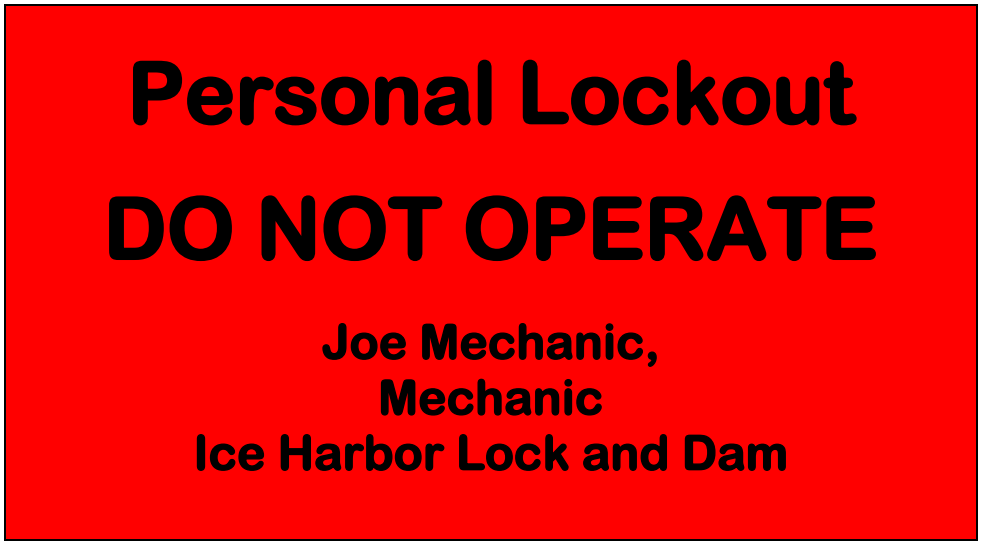


Figure 7. Position Hazard Analysis (PHA) (NWW Form 385-47) – SAMPLE

POSITION HAZARD ANALYSIS (PHA) FOR USACE EMPLOYEE

Name: (Print - Last, Frist, MI):	Prepared by: (Print Name-Last, First, MI):
Job Series:	Job Title:
Job Number (SF-52):	Command Name & Organization Code:
Primary Duty Location:	Analyzed by (CENWW-SO):
	Date (month, Day, Year):
	Signature and Title:

Clearance Required

EMS OPS TEAM ☐ First Aid/CPR ☐ Respirator ☐ CDL ☐ Crane Operator ☐ Diver ☐ HTRW ☐ Other ☐

POSITION TASK	SAFETY AND/OR OCCUPATIONAL HEALTH HAZARDS	RECOMMENDED CONTROLS

NWW Form 385-47, Oct 09 Page 1 of 3

POSITION HAZARD ANALYSIS (PHA) FOR USACE EMPLOYEE
Continuation Sheet

POSITION TASK	SAFETY AND/OR OCCUPATIONAL HEALTH HAZARDS	RECOMMENDED CONTROLS

NWW Form 385-47, Oct 09 Page 2 of 3

This analysis serves as the hazard assessment required by Sections 01, 05, and 06 of EM 385-1-1, U.S. Army Corps of Engineers Safety and Health Requirements Manual. The employee covered by this analysis has been instructed in the tasks to be performed, the hazards to be encountered, the potential adverse effects of exposure to such hazards and the controls to be used. He/she has received adequate training specifically related to safe work practices, administrative and engineering controls and personal protective equipment (PPE) to be used in order to assure assigned work tasks are conducted in a safe and healthful manner. He/she has demonstrated an understanding of the safety and health equipment and PPE to be used to include its limitations, useful self-life, how to properly don, doff, adjust, and wear required PPE and how to properly care for, inspect, maintain, store, and dispose. Attached is documentation of the training received, dates of such training, and the subject matter taught.

Supervisor Signature		Employee Signature	

Original Copy: Originator Office
Copy: CENWW-SO
Copy: Employee

Figure 8. Safe Clearance Order Form – SAMPLE

STATION	CORPS OF ENGINEERS **SAFE CLEARANCE ORDER FORM** ER-385-1-31	Page Information: Clearance Date: Clearance Time:
CLEARANCE NO.	Group Clearance Sheet No(s). Issued	CLEARANCE COMPLETED BY

SYSTEM AND HAZARDS TO BE CLEARED
PURPOSE

CLEARANCE REQUIRED BY (NAME/TITLE)	TIME	DATE
POINT OF CONTACT		PHONE
ESTIMATED TIME OF COMPLETION	EST TIME TO RETURN EQUIPMENT TO SERVICE IN EMERGENCY	

PROCEDURAL STEPS AND RESPONSIBILITIES FOR PLACEMENT, REMOVAL, AND TRANSFER OF LOCKOUT/TAGOUT DEVICES

AUTHORIZED BY	ISSUING EMPLOYEE		
CLEARANCE ISSUED TO	TIME	DATE	BY
CLEARANCE RELEASED BY	TIME		DATE
CLEARANCE REMOVED BY	TIME		DATE

Figure 9. Safe Clearance Request Form – SAMPLE

SAFE CLEARANCE REQUEST

Equipment Requiring Clearance: _____

Reason for Clearance: _____

Requested By: _____
Name

Date and Time Clearance Needed: _____ Date _____ Time

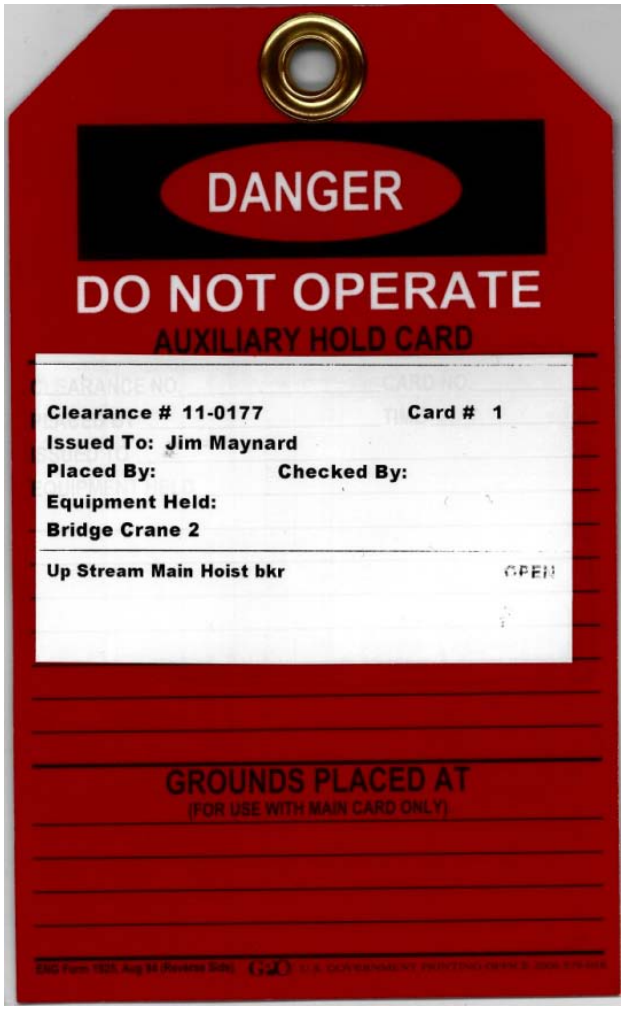
Group Clearance: ☐ Yes ☐ No

Estimated Return to Service: _____ Date _____ Time

Describe the method that will be used to determine if the hazardous energy has been removed and isolated by the safe clearance:

Figure 10. Safe Clearance Tag (Red Danger Tag / Danger – Do Not Operate Tag) (ENG Form 1925) – SAMPLE

Safe clearance tags shall be red and able to withstand environmental conditions.



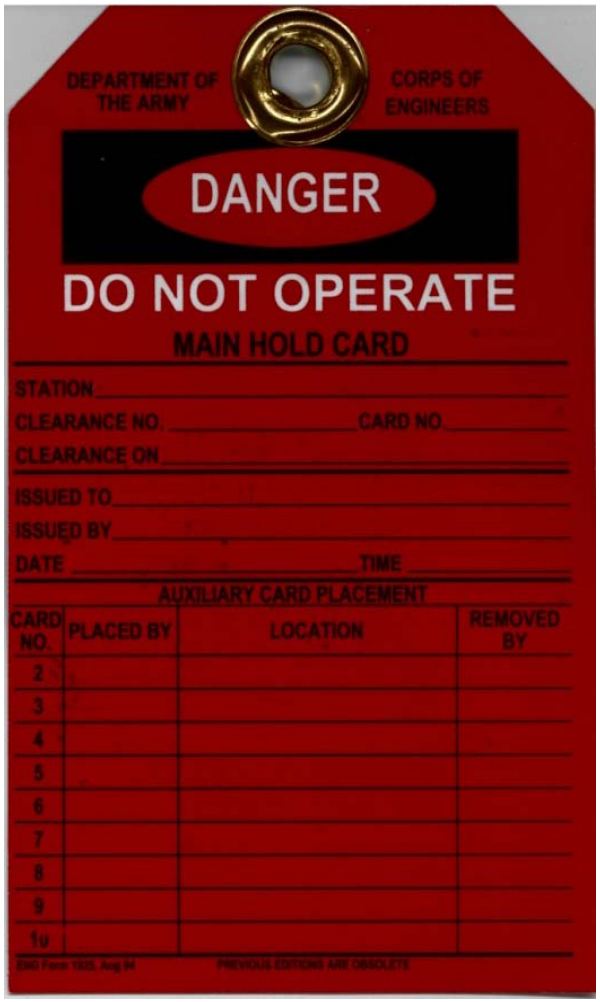


Figure 11. Temporary Protective Ground (TPG) Tag – SAMPLE

TPG tags shall be red and able to withstand environmental conditions.

SAFE CLEARANCE PROGRAM FOR THE CONTROL OF HAZARDOUS ENERGY

APPENDIX C

APPLICABLE EQUIPMENT
FOR PERSONAL LOCKOUT/OPERATIONAL PERMITS – EXAMPLE

SAFE CLEARANCE PROGRAM FOR THE CONTROL OF HAZARDOUS ENERGY

APPENDIX C

Applicable Equipment for Personal Lockout/Operational Permits – EXAMPLE

Project Name

The following list of equipment may be operated or removed from service without a safe clearance under the operational permit or personal lockout provisions of this Hazardous Energy Control Program (HECP).

Equipment	**Personal Lockout**	**Operational Permit**
Project elevators		
DC systems (except station batteries)		
Motorized doors		
Project cranes and hoists		
Project water heaters		
Deck wash pump and piping system		
Project sewage pumps		
Domestic water well pumps and chlorinator		
Project 120, 240, and 480 volt (V) outlet circuits		
Electrical heaters		
Project lighting circuits and timers		
Code call bells		
Unit air conditioners, vent fans and controls		
480V (or less) heat pumps and auxiliaries		
Exhaust fans, recirculating fans and intake fans		
Electronic precipitron		
Fish counting house air conditioning system		
Air compressors and associated equipment		
Shop equipment - electrical and mechanical		
Project sump pump motors of 480V and lower		
Spillway emergency diesel generator		
Oil storage room pumps and motors		
Gravity oil storage tank		
Farval grease systems		
Fire pumps		
Radio equipment		
Twin strainers (one at a time)		
Unit headcover pumps (one at a time)		
Unit turbine bearing oil pumps (one at a time)		
Unit 480V governor oil pumps (one at a time)		
Hydraulic headgate oil pumps (one at a time)		

Equipment	Personal Lockout	Operational Permit
Traveling fish screens		
43 selector switch for STS inspection		
Gate limit for STS install and removal		
Selector gates		
Project CO_2 systems		
Transformer cooling fans		
Transformer nitrogen supply systems		
Battery chargers		
Small craft intercom systems		
Unwatering and drainage pumps control power for sump water level, control systems, vacuum breaker repair, and preventative maintenance.		
Water level servomanometer system		
Fish exit sluice gate, motor and control system		
Fish counting board lights and barrier gate		
Fish counting station equipment		
Fish entrance weir gates, motors and gear reducer		
Control switch for the 4160V governor oil pump for strainer cleaning		
Visitor area irrigation sprinkler systems		
Unit 4, 5, and 6 generator cooling water motor operated valves and motors (unit must not be running)		
Turbine blade servomotor oil, catcher return oil pumps		
Fish ladder make-up valve and motor		
Limitorques (diffuser valves)		
Spillway tainter gates, one at a time		
Navlock fill and drain valves, one at a time, for minor preventive maintenance work. (Lock full on valves 3 and 4, drained on valves 1 and 2)		
Intake debris raking operations		
Navlock downstream lift gate and controls.		
Navlock upstream lift gate and controls.		
Juvenile Fish Facility		
Shop equipment - electrical and mechanical		
Juvenile and adult fish passage equipment		

SAFE CLEARANCE PROGRAM FOR THE CONTROL OF HAZARDOUS ENERGY

APPENDIX D

PERSONNEL AUTHORIZATIONS – EXAMPLE

SAFE CLEARANCE PROGRAM FOR THE CONTROL OF HAZARDOUS ENERGY

APPENDIX D

Personnel Authorizations – EXAMPLE

Project Name

DATE OF ISSUE: *Insert Date*

Responsible Official
In accordance with Engineering Regulation 385-1-31, *Insert Name*, *Insert Position*, is designated as the Responsible Official for the *Insert Name* Project.

The Responsible Official may delegate the administrative duties listed in 2-1.b.2 to *Insert Name*, *Insert Position*.

In the case of emergency situations identified in Chapter 4, the Issuing Individual may act on behalf of the Responsible Official or designee if neither is present or cannot be contacted.

Personnel Authorizations
In Accordance with Engineering Regulation 385-1-31, the following list provides personnel qualifications and training dates for the purposes of this Hazardous Energy Control Program (HECP). An Authorized Individual is also authorized to hold personal lockouts and request operational permits.

Name	Section/ Company	Issuing Individual	Authorized Individual	Affected Individual	Limitations/ Exceptions	Training Date
Electrician						
Mechanic						
Laborers						
Pump Mechanics						
Equipment or Utility Operators					No personal lockouts or operational permits	
Operators						
Engineer						
Supervisor						
Elevator						
Fisheries						
HVAC						

Approved by: _____
Responsible Official Date

SAFE CLEARANCE PROGRAM FOR THE CONTROL OF HAZARDOUS ENERGY

APPENDIX E

ENGINEERING REGULATION 385-1-31, THE CONTROL OF HAZARDOUS ENERGY

SAFE CLEARANCE PROGRAM FOR THE CONTROL OF HAZARDOUS ENERGY

APPENDIX E

Engineering Regulation 385-1-31, The Control Of Hazardous Energy

Click for electronic copy: Engineering Regulation 385-1-31.

SAFE CLEARANCE PROGRAM FOR THE CONTROL OF HAZARDOUS ENERGY

APPENDIX F

SAFE CLEARANCE LOCK BOX STORAGE LOCATIONS

SAFE CLEARANCE PROGRAM FOR THE CONTROL OF HAZARDOUS ENERGY

APPENDIX F

Safe Clearance Lock Box Storage Locations –EXAMPLE

Project Name

Safe clearance lock boxes and Group Clearance Form (Master Tag) shall be returned to the control room or a specified location as identified below.

Main Units
S-Board desk/table

Navigation Lock
Lock Master's Office

Juvenile Fish Facility
Biologist's Office

Remote Sites (Natural Resources)
Area of Work

SAFE CLEARANCE PROGRAM FOR THE CONTROL OF HAZARDOUS ENERGY

APPENDIX G

BONNEVILLE POWER ADMINISTRATION ACCIDENT PREVENTION MANUAL
SECTION S-6, SWITCHING AND CLEARANCE PROCEDURE

SAFE CLEARANCE PROGRAM FOR THE CONTROL OF HAZARDOUS ENERGY

APPENDIX G

Bonneville Power Administration Accident Prevention Manual
Section S-6, Switching and Clearance Procedure

Click for electronic copy: Bonneville Power Administration Accident Prevention Manual.
Refer to Section S-6, Switching and Clearance Procedure.