

**PUBLIC UTILITY DISTRICT NO. 1
OF CHELAN COUNTY**

**GENERATION
ENERGY CONTROL
PROGRAM**



CHELAN COUNTY

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Version 2

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1.0 Introduction

1.1 Scope

This Generation Energy Control Program (Program) applies to all Public Utility District No. 1 of Chelan County (District) personnel who supervise, order, perform and direct switching, clearances and/or work within boundaries of generation facilities of the District. Provisions of this Program also cover energy isolation and/or lockout/tagout (LOTO) rules for equipment that is an integral part of, or inextricably commingled with power generation systems. Processes and activities of this Program are covered in the Washington Administrative Code (WAC), [WAC 296-45](#) and [WAC 296-803](#) where applicable.

1.2 Purpose

1. The purpose of this Program is to establish minimum energy isolation requirements necessary to ensure a safe working environment for all District employees and contractors. This Program provides guidance and outlines procedures to control and/or eliminate potential hazards such as electrical, pneumatic, hydraulic, mechanical, or other hazards prior to commencement of any repair, testing or maintenance activity ([WAC 296-45-17505\(5\)\(a\)](#)).
2. **This clearance procedure is of the most serious nature and must not be compromised.** The Energy Isolation LOTO Program to isolate lines of equipment for a clearance must be entered into by all parties in a businesslike manner with a clear understanding of desired results ([No. 701 - Safety Policy Statement](#)).

NOTE: District tagout devices will be referred to as **clearance tags** in this document.

3. Any Affected Person who willfully violates procedures as outlined herein may be subject to disciplinary action.

1.3 References

- [WAC 296-45-175](#)
- ESCI 2016 report, "Assessment of Chelan PUD's Generation Isolation Program"
- Integrated Tools for Operations Application (iTOA)
- District Form - 1004R
- District Confined Space Policy
- No. 701 - Safety Policy Statement

2.0 General Clearance Requirements

A clearance is an assurance given to the Clearance Holder by the Plant Operator that the designated equipment:

- Has been isolated from required energy sources

- Is in the requested position
- Is properly tagged with clearance tags
- Will not be operated until after it has been released from the clearance

1. **Do NOT change the status of equipment with a clearance tag in place.**

Clearances and their associated clearance tags represent a lifesaving procedure (Generation Energy Control Program). **Any employee who willfully violates the procedures as outlined herein may be subject to disciplinary action.**

2. All clearance tags are placed, accounted for and removed only in conjunction with a properly approved clearance.
3. Only authorized, qualified operations personnel shall prepare and process clearances and place and lift clearance tags.
4. If a tagged component is to be physically removed after the clearance is authorized, the tag must be lifted per sections 5.5.2 – Clearance Revisions or 5.6.3 – Crewmember Activities (as applicable) of this procedure prior to removing it from the system.
5. A person needing to read the information on a clearance tag may handle the tag, but is **NOT** allowed to manipulate the component, even to verify the tagged position. Position checking of equipment is performed during tag placement prior to the Clearance Holder accepting the clearance.

If the component does not isolate the energy (e.g. leaking valve) the Clearance Holder must notify the Chief Operator and have Crewmembers sign off to receive approval to reposition/reseat the component.

6. An Authorized Person obtaining an In-Plant Clearance (IPC) is responsible to fully understand the scope of work and must be able to demonstrate understanding to the Chief Operator issuing the clearance. The Chief Operator has authority to deny a clearance if they feel the requestor cannot demonstrate sufficient understanding of either the scope of work/clearance points, or the clearance process.
7. The Chief Operator has discretionary issuing authority and may grant clearance(s) to anyone they deem fit in case of emergency.
8. The proper technique in applying a clearance is to encircle the equipment to be worked on with a perimeter of protection. Within this perimeter, equipment should be as free of clearance tags as possible so as not to impede work. When more than one crew, craft, department, etc., is working on the same or connected equipment, the Chief Operator will be responsible to coordinate clearances for work forces and ensure continuity of protection.

9. When necessary for two or more crews to perform work activities on the same or related equipment requiring similar, but not necessarily the same protection, additional IPC's must be requested. Each additional IPC shall have an individual clearance number and be supplemented with necessary clearance tags to ensure adequate protection for that work. This allows release of each clearance separately and removal of individual protective safety tags after completion of each task.
10. All personnel performing work within a clearance boundary are required to be an authorized Generation IPC Crewmember and, with permission from the Clearance Holder, sign onto the associated clearance.
11. IPC clearance tags shall include the following information as a minimum:
 - a. IPC number
 - b. Tag number
 - c. Danger Do not Operate
 - d. Component name and/or number
 - e. Required position
 - f. Operator initial [WAC 296-45-17515\(6\)](#)

3.0 Roles and Responsibilities

1. **General Manager**
 - a. The General Manager supports the Program by promoting the District's highest priority, which is the value of safety.
2. **Generation and Transmission Managing Director**
 - a. The Generation and Transmission Managing Director ensures adequate resources to implement the Program.
3. **Safety Director**
 - a. The Safety Director ensures the Program is in compliance.
4. **Directors of Hydro Operations, Central Maintenance (CM), and Hydro Plant Engineering**
 - a. Directors of Hydro Operations, CM, and Hydro Plant Engineering authorize appropriate authorities to implement the Program.
5. **Site Hydro Operations Superintendents**
 - a. The Hydro Operations Superintendents have designated authority to implement and enforce the Program from the Director of Hydro.
6. **Safety Coordinators**
 - a. The Safety & Health Division is responsible for the Program and will have Safety Coordinators at each facility, lead all related meetings, trainings, discussions and audits associated with the Program. Safety is responsible for ensuring completion of annual audits of the Program (see [WAC 296-45-17505 \(6\)](#)).

7. Maintenance/Operations Superintendents

- a. Maintenance/Operations Superintendents shall annually authorize their employees to be Switchmen/IPC Crewmembers or have the ability to apply hands-off tags. Superintendents of Clearance Holders shall submit a request to the Operations Superintendent, specific to each facility, requesting appropriate testing for their employee(s) to become a Clearance Holder specific to that facility. Upon successful completion of a practical examination, Supervisors shall authorize Crewmembers.

8. Contractor Oversight (Project Managers, Construction Managers, District Inspectors, Engineers)

- a. These individuals will be Clearance Holders for IPC's required for contractor work and will be responsible for those contractors working on District projects. Contractors who need to work under an IPC will sign on as Crewmembers to an IPC held by one of these individuals and will follow the same IPC procedures as Crewmembers. A Clearance Holder may authorize small scope contractors to sign onto a plant or CM clearance.

9. System Operator

- a. The System Operator will issue clearances outside the boundaries of the District's generating facilities. Under special circumstances, the System Operator may issue clearances up to and including appropriate generator equipment and components.

10. Chief Operator

- a. The Chief Operator shall issue clearances on equipment within the boundaries of the District's generating facilities.
- b. In special circumstances where the System Operator issues a clearance (as noted above) within the plant side of pole top disconnect switches, the Chief Operator will direct all switching on the plant side of the pole top disconnect switches.

11. Chelan Operator/Maintainer

- a. When qualified, the Chelan Operator/Maintainer can perform all duties assigned to the Chief Operator per this document, for the Chelan Falls generating facility.

12. Senior Operator/Journeyman

- a. When deemed qualified by the Rocky Reach (RR)/Rock Island (RI)/Lake Chelan (LC) Ops Superintendent, Senior or Journeyman Operator will normally be tasked with placing and removing LOTO devices at the direction of the Chief Operator. In addition, Senior or Journeyman Operators are normally tasked with performance of switching orders issued by a System Operator for plant interface switching (per section 4 of this Program).

13. Clearance Holder

- a. Each Clearance Holder is responsible for understanding and maintaining a clearance boundary for work being performed. The Clearance Holder will brief workers on clearance boundaries ensuring their protection. Once a Clearance Holder accepts a clearance, they are responsible for systems, equipment and associated Crewmembers within the boundary of a clearance.
- b. Where appropriate, the Clearance Holder may request additional energy verification (voltage checks, pressure checks, etc.) to ensure safe conditions within a clearance boundary. Examples of where this may be necessary include potential induced voltages from parallel electrical lines, or where a pressure source is tagged out with no vent/drain path available, so piping flanges may need to be 'broken' to relieve or verify a safe pressure.

14. Crewmembers

- a. A District Authorized Crewmember, with permission from the Clearance Holder, may sign onto an IPC to perform work. They shall report to the Clearance Holder any changes in status of equipment and adhere to the Crewmember Activities section of this Program while working within an IPC. The Crewmember will perform additional energy verification (voltage checks, pressure checks, etc.) to ensure safe conditions within a clearance boundary. Examples of where this may be necessary is potential induced voltages from parallel electrical lines, or where a pressure source is tagged out with no vent/drain path available, so piping flanges may need to be 'broken' to relieve or verify a safe pressure.

15. Apprentice/Trainee

- a. An apprentice or trainee is a Crewmember who is **ONLY** allowed to work under a clearance (IPC or Hands-Off Tag) with direction from an Authorized Crewmember (journeyman level) or Clearance Holder as directed in this Program.

16. Medical Emergency Response Personnel

- a. Medical emergency response personnel are not expected to sign onto clearances when responding to an emergency, however they shall be escorted by the Clearance Holder or Crewmember signed onto the clearance and should not delay their response to do so. If no Crewmembers or Clearance Holders are available, an Authorized Operator may perform the escort duties. For confined space work locations see the District Confined Space Program.

17. Affected Person

- a. An Affected Person does not have the qualification or training to work within a clearance boundary. If they are required to enter an area that is

within an IPC boundary, they shall obtain permission from the Clearance Holder and be escorted by the Clearance Holder or an Authorized Person familiar with the clearance and work.

4.0 In-Plant/Transmission Interface and Pole Top Work

4.1 Transmission/In-Plant Interface

When an IPC is required for equipment on the plant side of a pole top disconnect switch (e.g., generator main transformer) that requires a pole top disconnect switch to be opened and tagged with a clearance tag, the following procedure shall be used:

1. Worker requesting the IPC shall communicate directly with the Chief Operator in obtaining and releasing the IPC.
2. The Chief Operator shall request a clearance on the pole top disconnect switch from the System Operator.
3. Pole top disconnect switch shall be opened following an issued switching order and tagged for the Chief Operator with distribution/transmission District Safety Tag.
4. After the Chief Operator has been issued a clearance from the System Operator, the Chief Operator shall issue an IPC on required equipment, tagging the pole top disconnect switch with a numbered generation clearance tag for the associated worker using steps outlined in the remainder of this document.

4.2 Plant Pole Top Disconnect Switch work

When work directly on a pole top disconnect switch is required, the following procedure shall be used:

1. When a worker requests an outage from the System Operator for work on a plant pole top switch, they shall include the Chief Operator in that communication.
2. The System Operator shall send the Chief Operator and worker requesting a clearance the “switching guidelines” as far in advance as possible. The Chief Operator and worker shall review the guidelines for accuracy.
3. All switching/tagging ordered by the System Operator on the plant side of a pole top switch shall be authorized by the Chief Operator.
4. The System Operator shall issue the Chief Operator, or their designee, appropriate switching orders for isolation within the plant. Switching in transmission yards or remote locations for line isolation of pole top switches, will be performed by a qualified District Switchman.
5. Isolation of a plant pole top switch will reach into the plant system up to and including appropriate generator breaker/disconnects and instrumentation isolations.

6. Equipment will be tagged with distribution/transmission District Safety Tag, for the worker.
7. Upon verification that all equipment is tagged and isolated correctly, the worker shall notify the System Operator that they are ready to accept the clearance.
8. The System Operator shall issue a safety clearance directly to the worker.
9. Restoration of in-plant equipment, upon completion of work, shall be directed by the Chief Operator. Pole top disconnect restoration will be authorized by the Chief Operator, with actual switching order being issued by the System Operator.

5.0 In Plant Clearance (IPC) Procedure [WAC 296-45-17505\(5\)\(c\)](#)

5.1 Requesting a Clearance

Authorized Clearance Holders/requestors shall determine required energy isolation points using District prints and procedures and shall submit a completed Clearance and Switching Request to the Chief Operator as far in advance as possible. The Chief Operator will then work with the person requesting clearance to ensure:

- All information provided is clear and concise
- Equipment can be made available
- Requested energy isolation points will provide a safe working perimeter.

5.2 Origination of a Clearance

Upon receiving and discussing a Clearance and Switching Request, the Chief Operator or his/her designee will generate an IPC in the current clearance software. This shall include all isolation points and assignment of tag numbers from the available (not assigned to another clearance) permanent numbered clearance tags.

5.3 Clearance Review

After generation of a clearance, it will be reviewed by another Qualified Operator. After review, all associated clearance forms and tag labels shall be printed and applied. Verification will be documented on the *Master Clearance Sheet*.

5.4 Clearance Tag Placement and Acceptance

1. Once a clearance has been created and approved, the Operator will notify the Clearance Holder when preparing to hang the clearance to afford them the opportunity to accompany the Operator and verify the position of each device. If clearance tags are being added to, or over top of existing tags for other clearances, the Clearance Holder will rely upon visual inspection of device position or other secondary methods of verifying energy isolation or control. Examples include: testing a start/stop control downstream of the breaker, checking for voltage, cracking drain valves or inspecting pressure gauges downstream of the primary isolation valves.

2. The Operator will perform the following for each component having a tag placed upon it:
 - a. Position equipment in the required tagged position. If required, use appropriate procedures to place equipment in a state which allows safe repositioning (e.g. unit unwatering) (see [WAC 296-45-17505\(5\)\(b\)](#) and [WAC 296-45-17530\(2\)](#) – (ESCI)).
 - b. Component shall be sufficiently restrained such that it cannot be inadvertently repositioned with tag affixed to the restraining device. For devices with an engineered LOTO point, no further restraints shall be required; however, it may be prudent to affix a hasp to allow multiple tags to be hung on the point. If the component is designed to be locked out, a restraining device shall be used in the location designed for lockout (see [WAC 296-45-17505\(2\)\(b\)\(1\)](#) and [WAC 296-45-17530\(5\)](#)).

NOTE: *If it is hazardous to apply secondary means, secondary means are not required.*

- c. A Tag shall be applied to restraining device (if applied – otherwise directly on, or as near as safely possible to the component) using a minimum strength 50 pound cable tie (see [WAC 296-45-17530\(5\)](#) and [WAC 296-45-17530\(6\)](#)).
3. Once the tag is placed, the Operator will initial, date, and record time the tag was hung on the *Master Clearance Sheet*, and print his/her name on the back of each clearance tag (see [WAC 296-45-17530\(6\)](#)).
4. Once all equipment has been positioned and tags have been hung the Operator shall return the *Master Clearance Sheet(s)* to the Control Room. The Clearance Holder and Chief Operator will discuss status of the clearance to include:
 - a. Clearance boundary
 - b. Any additional tags that may be required in the future.
 - c. Any equipment deficiencies, particularly ones that may affect the clearance perimeter.
5. The Clearance Holder shall accept the clearance, entering their signature, date and time on the *Master Clearance Sheet* and the Chief Operator will issue the clearance. This acknowledges acceptance of equipment and clearance and transfers ownership from the Operations to the Clearance Holder.
6. The Chief Operator shall enter into the operations log: clearance number, Clearance Holder name and time when the clearance was accepted and issued.
7. *Master Clearance Sheet* shall be maintained in the appropriate Control Room under jurisdiction of the Chief Operator for retrieval and access.
8. The Chief Operator will provide the Clearance Holder with the *Workman's Copy* of the *Master Clearance Sheet* and all associated documents.

5.5 Clearance Revisions

5.5.1 Adding tags

After a clearance has been issued, due to work scope and system configurations, it may be necessary to expand a clearance boundary or isolate additional energy sources that may be tied into work being performed. This process shall be followed to request additional tag points:

1. The Clearance Holder shall contact operations and discuss additional tagging points and the reason for them along with expected duration.
2. The Chief Operator will determine if additional equipment can be removed from service and added to the clearance. If points can be added:
 - a. The Operator will add clearance points and assign clearance tag number(s) in the District's clearance program and onto *Master Clearance Sheet*.
 - b. The Clearance Holder will ensure the *Master Clearance Sheet* and *Workman's Copy* are consistent.
3. Once updated, a tag label will be printed for requested equipment and the clearance will be saved with changes.
 - a. Equipment will be repositioned, as required, by the Operator and verified by the Clearance Holder(s).
 - b. Component(s) shall be sufficiently restrained such that it cannot be inadvertently repositioned with the tag affixed to the restraining device.

NOTE: *If more dangerous to apply secondary means, place tag at the closest practical location.*

- c. Once a tag is hung, the Operator will initial and date the tag. The Operator will initial, date and record time on the *Master Clearance Sheet*.
- d. Once all equipment has been repositioned and tags have been hung, the Operators shall return the *Master Clearance Sheet* to the Chief Operator. For detailed procedure for Crewmembers, see section 5.6.
- e. The Chief Operator will provide the Clearance Holder a current copy of the *Master Clearance Sheet Cover Letter* with current boundary.

5.5.2 Temporarily Removing Tags for Testing and Repositioning - [WAC 26-45-17545](#) (ESCI)

When a Clearance Holder requests removal of individual tags from an existing clearance, they shall discuss with Chief Operator the reason, duration and new clearance boundaries.

1. The Clearance Holder shall review the *Clearance Holder's Work Log*, ensure that personnel, non-essential items, tools and materials have been removed from the affected areas and that affected equipment will support restoration of energy.
2. The Clearance Holder shall ensure Crewmembers have signed off the *Crewmember Verification Record* (see Appendix C). All work will be suspended at this time. If a Crewmember is not available, an authorized District employee higher in authority to the associated Crewmember, and who is familiar with the work, may, after verifying that employee is not available and after a personal inspection of the equipment, authorize removal of the tag.

The person authorizing removal of a tag will be responsible to ensure the Crewmember who was signed onto the IPC is informed the tag has been removed before the Crewmember resumes work at the facility (see [WAC 296-45-17525](#) and [WAC 296-45-17540\(4\)](#) (ESCI)).

1. For each tag being temporarily removed, the Clearance Holder shall verify all active Crewmembers have signed off the clearance and initialed each affected tag on the left side of *Master Clearance Sheet*.
2. The Operator shall verify the Clearance Holder has initialed affected tags on the *Master Clearance Sheet*, after which the Operator removes tag(s) and secondary means associated with the clearance. Record initials, dates, and times on the *Master Clearance Sheet* for each tag removed.
3. The Clearance Holder is then notified of tags and times removed.
4. The Operator will provide the Clearance Holder a current copy of the *Master Clearance Sheet Cover Letter* with the current boundary.

Lifted tags shall be maintained with the master copy of the clearance. Lifted tags may not be reassigned to a new clearance until the active clearance is released. In addition, lifted tags may be re-hung on the same equipment as needed in accordance with 'Adding Tags' section 5.5.1.

5.6 Crewmember Activities

5.6.1 Signing onto a Clearance

When an authorized individual needs to work within the boundaries of a clearance, they shall perform the following:

1. Review the *Workman's Copy* of the *Master Clearance Sheet* and verify isolation points sufficiently establish the appropriate boundary for their scope of work.
2. Discuss work scope and duration and get permission from the Clearance Holder to sign onto the clearance (see [WAC 296-45-17525](#)).
3. Initially walk down all clearance tagging points, and independently verify tags are present and visually confirm the device(s) are positioned correctly so as to

ensure protection for work being performed. If a Crewmember signs off of a clearance for any length of time, before signing back on, they shall review the current state of the clearance. At a minimum they shall walk down and verify any changes to the clearance since they signed off and may walk down and verify any other portions of the clearance they feel necessary to guarantee their safety.

4. Sign onto *Crewmember Verification Record* (see [WAC 296-45-17550\(4\)](#)).
5. Prior to performing any maintenance activities, energy control verification must be performed where possible. Examples of energy control include but are not limited to: live, dead, live check, pressure check via drain or vent valves, multimeter voltage checks, etc. (see [WAC 296-45-17505\(5\)\(d\)](#) and [WAC 296-45-17535\(2\)](#)).

5.6.2 Adding tags (Additional Tags On)

When tags are added to an existing IPC (or tags that were previously lifted and re-hung), the Clearance Holder will notify the Crewmembers signed onto the clearance. Once notified, Crewmembers will verify new tags are present and visually confirm device(s) are positioned correctly so as to ensure protection of work being performed. After which they will sign for those tags on the Additional Tags On page of the *Crewmember Verification Record* (see [WAC 296-45-17525](#)).

5.6.3 Temporarily Removing Tags for Testing and Repositioning [WAC 296-45-17545](#)

Prior to a Clearance Holder initialing for release of a clearance tag, all Crewmembers signed onto a clearance must release their interest in the clearance by signing off on the *Crewmember Verification Record*. Each Crewmember is responsible to clearly understand how the perimeter of the clearance will be changed by removing tags, to understand consequences of re-energizing isolation devices, and must verify that protection provided by the devices is no longer needed prior to signing back onto the clearance (see [WAC 296-45-17525](#)).

5.6.4 Hands-Off Tags Within a Clearance (IPC) Boundary (reference 6.1.2 for Use of Hands-Off Tags Within IPC)

5.7 Temporary Protective Grounds

Placement

Temporary Protective Grounds associated with an IPC are hung after an IPC is accepted. Temporary Protective Grounds are not considered part of the clearance. When hanging Temporary Protective Grounds, the following procedure shall be followed:

1. The Clearance Holder accepts IPC.

2. The Clearance Holder will notify the Chief Operator of placement and location of Temporary Protective Grounds.
3. The Chief Operator will provide the Clearance Holder with necessary "Grounds Applied" tags and log location of Temporary Protective Grounds on the bottom of the *Master Clearance Sheet* with "Grounds Applied", number of tags issued and location of where ground tags were placed.
4. A qualified electrical employee shall place all Temporary Protective Grounds and hang "Grounds Applied Tags" on all ground connections. No secondary means are necessary.
5. The Clearance Holder will note on the *Clearance Holder's Work Log* that grounds are applied. The "Grounds Applied" tags are accounted for by location, clearance number and documented on associated *IPC Clearance Holder's Work Log*.
6. Crewmembers will initial acceptance for each "Grounds Applied" tag on *Clearance Holder's Work Log*.
7. If additional logging space is needed a supplemental form is available. The *Protective Grounds Log* (see Appendix K).

Removal

Temporary Protective Grounds are removed prior to release of associated IPC as per the following:

1. The Clearance Holder will notify the Chief Operator that the Temporary Protective Grounds are to be removed.
2. The Clearance Holder shall notify all Crewmembers that the Temporary Protective Grounds will be removed.
3. Crewmembers shall initial for release for each "Grounds Applied" tag on the *Clearance Holder's Work Log*.
4. A qualified electrical employee shall remove all Temporary Protective Grounds and associated "Grounds Applied" tags once the Clearance Holder has removed the "Grounds Applied" tags.
5. Prior to release of IPC, the Clearance Holder will return the "Grounds Applied" tags to the Chief Operator.

5.8 Non-Crewmember Entry for an IPC (not to exceed one 24-hour period)

A Non-Crewmember is someone who has not received Energy Isolation LOTO Training. When necessary for a Non-Crewmember to enter the perimeter of an IPC, the following procedures must be followed:

1. A Pre-Task Plan will be covered with Non-Crewmembers before entering the IPC.
2. Authorization from the Clearance Holder must be granted. Request for entry should be obtained as far in advance as possible.

3. If the Clearance Holder is not available, permission to enter must be granted by the next person higher in authority and who is familiar with the work.
4. An escort (either Clearance Holder or Crewmember) will remain with the Non-Crewmember for the entire duration of their entry into the area covered by the IPC.
5. Guest activity must not interfere with other crew(s) safety.
6. The Escort must sign Non-Crewmember onto Non-Crewmember Entry Log before entering and sign them off after exiting the IPC.
7. IPC Holder has the authority to grant, deny, or terminate entry into an IPC by a Non-Crewmember as deemed necessary.

5.9 Transferring a Clearance - [WAC 296-45-17555](#)

IPCs may be “transferred” to another Authorized Person. The person, to whom a clearance is being transferred, shall be familiar with the clearance, work and shall be satisfied that adequate protection has been provided by visually inspecting devices are in requested position with tags in place.

1. When the Clearance Holder signs off on “Released by” line of transfer area of the *Master Clearance Sheet*, the Authorized Person to whom the clearance is being transferred shall accept the IPC by signing on the “Accepted by” line of the transfer area of the *Master Clearance Sheet*.
2. The new Clearance Holder is responsible for notifying Crewmembers of clearance transfer.
3. The Chief Operator shall have the new Clearance Holder’s name placed on all safety tags for the IPC.
4. The Operator shall log the transfer of the IPC in the operations log.

5.9.1 Abnormal Clearance Transfer

In the event a Clearance Holder becomes unavailable, and changes to a clearance are required, all work will be stopped, and Crewmember(s) will sign off the *Crewmember Verification Record*. The clearance may then be transferred to another Authorized Clearance Holder by an Authorized Generation Superintendent. The on-coming Clearance Holder must become familiar with the work, equipment and clearance status due to a lack of face-to-face turnover. After transfer is completed, the Crewmember(s) will verify tag placement and sign the *Crewmember Verification Record* before resuming work.

The Generation Superintendent authorizing the transfer will be responsible for ensuring the original Clearance Holder is informed of their release of responsibility for the IPC as soon as possible and before they resume work at the facility (see [WAC 296-45-17525](#) and [WAC 296-45-17540\(4\)](#) (ESCI)).

5.10 Clearance Release

5.10.1 Releasing an IPC after Work is Completed

Clearance Holder shall:

1. Inspect to ensure nonessential items, tools and materials have been removed, machine or equipment components are operationally intact, and all protective devices have been removed (see [WAC 296-45-17540\(1\)](#)).
2. Ensure all personnel are clear from equipment or area (see [WAC 296-45-17540\(2\)](#)).
3. Have each Crewmember release their interest in the IPC by signing off the *Crewmember Verification Record* (see [WAC 296-45-17525](#) and [WAC 296-45-17540\(3\)](#)).
 - a. If a Crewmember is not available, an authorized District employee higher in authority to associated Crewmember, and who is familiar with the work may, after verifying Crewmember is not available and after a personal inspection of equipment, may authorize release of their interest in the IPC.
 - b. Persons authorizing release will be responsible to ensure the Crewmember who was signed onto the IPC is informed their interest in an IPC has been released before the Crewmember resumes work at the facility (see [WAC 296-45-17525](#) and [WAC 296-45-17540\(4\)](#) (ESCI)).
4. Notify Plant Operators of job completion and status of any additional installation or changes made. If there is a question of equipment ownership, (for example due to needed testing or equipment discrepancies) the Clearance Holder and/or Chief Operator will contact appropriate management to determine transfer of ownership of the equipment prior to releasing a clearance.
5. The Operator will review that the *Workman's Copy* is complete.
6. Enter signature, date and time on *Master Clearance Sheet* "Released by" line and return completed *Workman's Copy* to the Control Room.

5.10.2 Clearance Tag Removal

Once the clearance is released by the Clearance Holder, Operations will ([WAC 296-45-17540\(4\)](#)):

1. Remove tag and any secondary means of energy control from equipment/component.
2. Enter initials, date and time on *Master Clearance Sheet* for applicable tag in the 'Tags Off' columns.
3. Reposition component if required – this may mean repositioning to normal position for operation, or a position required for a restoration procedure (e.g., refilling a system, a sequential energization of an electrical system, etc.).

5.11 Lost or Damaged Tag Replacement

In the event a tag label has become illegible, a Qualified Operator may print a new label and affix it over the existing label on the tag.

If numbered tag itself is damaged/illegible:

1. A clearance revision will be required to assign a new numbered tag to that component (see Adding Tags section 5.5.1).
2. A Qualified Operator will hang the new tag in the same location as the existing tag.
3. The Clearance Holder will notify active Crewmembers of tag placement and have Crewmembers sign for the new tag on the Additional Tags On page of *Crewmember Verification Record* (see [WAC 296-45-17525](#)).
4. The Clearance Holder shall verify the new tag, and then authorize removal of the old tag by initialing the 'Authorized Removal' block on the left side of the *Master Clearance Sheet* (since the clearance boundary is not changed, work stoppage is not required to remove the old tag).
5. A Qualified Operator will remove the old tag and record initials, date, and time on the *Master Clearance Sheet*.
6. The old tag will be permanently removed from service upon release of the clearance:
 - If a tag becomes dislodged from equipment/component, notify Operations to re-affix tag on the device. If there is any question about the position of the device prior to re-hanging the tag, Crewmembers will stop work and sign off *Crewmember Verification Record*, prior to checking equipment/ component position.

5.12 Training/Qualifications of Personnel

- Initially, and annually thereafter, each Affected Person, Crewmember, and Clearance Holder shall review and pass a role-specific examination on the District Energy Isolation LOTO Program.
- Initially, for an Affected Person to become a Crewmember, they shall pass the annual role-specific examination and be authorized by their supervisor.
- For a Crewmember to become a Clearance Holder they shall perform a practical exercise and evaluation with a Chief Operator specific to the facility(s) (powerhouse) for which they will be overseeing/performing work (see [WAC 296-45-17530\(1\)](#)).
- The Chief Operator may request, at their discretion or affected individual may request, a practical exercise as refresher training for a Crewmember or

Clearance Holder. Refresher training may be performed in a group (maximum of five (5) participants per exercise is recommended).

- Unintentional Deviation from clearance procedure
 - Re-training will be performed when deviations are found during a clearance audit or an unintentional clearance violation is found. Work under that IPC will stop, and the IPC will be considered in a suspended state until training and corrections are made.

5.13 LOTO Committee

The LOTO Committee provides a method to address interpretations, change requests and other improvements to the District Energy Isolation LOTO Program. Inter-facility meetings shall be held at least annually, and as needed otherwise.

The LOTO Committee consists of a minimum from each facility:

- Chief Operator
- Operations Superintendents
- Clearance Holder of each discipline (to include CM)
- Safety

5.14 LOTO Audits

The District shall conduct a periodic inspection of energy control procedure (at least annually) to ensure procedures and provisions of this section are being followed (see Appendix H) (see [WAC 296-45-17505\(6\)](#)).

1. Periodic inspections shall be performed by an authorized/designated employee who is not using the energy control procedure being inspected.
2. Periodic inspections shall be designed to identify and correct any deviations or inadequacies.
3. If lockout is used at remote sites for energy control, periodic inspections shall include a review between the inspector and each authorized/designated employee of that employee's responsibilities under the energy control procedure being inspected.
4. Where tagout is used for energy control, periodic inspections shall include a review between the inspector and each authorized/designated and affected employee of that employee's responsibilities under the energy control procedure being inspected, and elements set forth in this section.
5. The Operations Superintendent or designee shall certify inspections required by this section have been accomplished. Certification shall identify the machine or equipment on which the energy control procedure was used, date of inspection, employees included in the inspection and person(s) performing the inspection.

5.15 Emergency Operation of Safety Tagged Components

In an emergency, the Chief Operator may authorize operation of safety-tagged equipment (or equipment within the boundary of an existing IPC) to prevent or mitigate significant plant or personnel safety issues. He/she must take into account personnel in the area and equipment status to the maximum extent possible before authorization. Afterwards, the Chief Operator must notify affected Clearance Holder(s) who shall notify their Crewmembers as soon as practical (see [WAC 296-45-17525](#), [WAC 296-45-17530](#), [WAC 296-45-17535](#) and [WAC 296-45-17540\(4\)](#)). The Chief Operator shall also notify relevant Superintendent(s) of these actions as soon as practical.

5.16 Chief Operator Clearances

The Chief Operator may, as a means to place equipment in a safe condition after an un-planned event, authorize an In-Plant Clearance with "Chief Operator" listed as the Clearance Holder.

NOTE: No work may be performed under a Chief Operator clearance. A secondary review of chief's clearances is preferred but not required in instances where only one operator is available.

A Chief Operator clearance may be maintained as long as necessary for plant safety, but should be transferred to appropriate personnel as soon as practical. A Chief Operator clearance is not intended for long-term layup of equipment, nor transferring custody of equipment between crews.

NOTE: ANY qualified Chief Operator is able to authorize modifications or release of a Chief Operator clearance.

6.0 Specific Types of Tags

6.1 Hands-Off Tag Procedure

HANDS-OFF TAGS ARE A BONA FIDE SAFETY TAG AND SHALL BE TREATED WITH THE SAME RESPECT AS A CLEARANCE TAG.

6.1.1 Conditions of Use

- a. Hands-Off tags shall be used only on energy isolating devices for auxiliary mechanical and low voltage (600 volts or less) electrical equipment that meets the following requirement: if you are not able to appropriately control energy with one hands-off tag you must request a clearance or an approved written procedure.

NOTE: *There must be a journeyman hands-off tag in place before an apprentice/trainee can place their tag directly on a device. The apprentice/trainee must also remove their hands-off tag before journeyman removes their tag from a device.*

6.1.2 Use of Hands-Off Tags INSIDE an IPC

Hands-off tags inside an IPC shall meet the above requirements, but shall be administratively controlled as follows:

- While working within the perimeter of an IPC, Crewmembers needing to work on auxiliary or low voltage (600 volts or less) equipment may utilize their hands-off tags as their personal protection. Each Crewmember is responsible to request permission from the Clearance Holder to place or remove their hands-off tag from any equipment within the perimeter of the IPC to perform servicing or maintenance. Hands-off tags used within an IPC should also include an IPC number on the tag to associate that tag with the IPC.
- Each Crewmember working on the same piece of equipment must have their own tag in place before beginning work. Hands-off tag must be removed when work is completed. Each Crewmember that places and removes their tags is responsible to log them on and off the Clearance Holder's Hands-Off Tag Log. The Clearance Holder shall report any major changes in status of equipment at the end of the day to the Plant Operator.
- If an IPC hands-off tag must be removed, and an employee is not available, an authorized District employee higher in authority to the person who placed the hands-off tag and who is familiar with the work may, after verifying that the employee is not available and after a personal inspection of the equipment, authorize removal of the hands-off tag.
- Persons authorizing removal of a hands-off tag will be responsible to contact the Clearance Holder for removal of the tag. The person authorizing removal of a tag will be responsible to ensure the employee who placed the tag is informed that the tag has been removed before the person who placed the tag resumes work at the facility (see [WAC 296-45-17525](#), [WAC 296-45-17530](#), [WAC 296-45-17535](#) and [WAC 296-45-17540\(4\)](#)) (ESCI).

6.1.3 Use of Hands-Off Tags Outside of an IPC

- The Chief Operator shall be contacted and authorization must be granted before removing any equipment from service and placing a hands-off tag. Notification shall be given to Affected Personnel by the worker before the hands-off tags are applied and before they are removed from a machine or equipment.

- Each Authorized Employee working on the same piece of equipment must have their own tag(s) in place before beginning work.
- It is the responsibility of workers to inform the Chief Operator of equipment status. If equipment cannot be returned to service before end of shift, the worker shall inform the Chief Operator, who will then determine if an IPC will be issued, or if the hands-off tag will remain in place. If the hands-off tag will be in place for more than one (1) week, evaluate other means of isolation or use of an IPC.
- Hanging a Hands-Off Tag:
 - After authorization from the Chief Operator, and notification of Affected Personnel, the worker shall place component in the desired position, and then apply their hands-off tag (along with appropriate secondary means). Operations will log tag placement in the Plant Log.
- Removal of Hands-Off Tags
 - All Hands-Off Tags and secondary means of control shall be removed from each energy-isolating device by the employee who applied the Hands-Off Tag. The employee shall then notify Operations of equipment status and tag removal for entry into the Plant Log.
 - If the employee is not available however, an authorized District employee higher in authority to the person who placed the hands-off tag and who is familiar with the work may, after verifying worker is not available and after a personal inspection of equipment, may authorize removal of the Hands-Off Tag.
 - Persons authorizing removal of a Hands-Off Tag will be responsible to contact Plant Operators for removal of tag. Persons authorizing removal of the tag will be responsible to ensure the employee is informed before they resume work at the facility (see [WAC 296-45-17525](#), [WAC 296-45-17530](#), [WAC 296-45-17535](#) and [WAC 296-45-17540\(4\)](#)) (ESCI).

6.1.4 Chief Operator Hands-Off tags

The Chief Operator may, as a means to place equipment in a safe condition after an unplanned event, authorize a hands-off tag with “Chief Operator” listed as the authorized worker.

NOTE: *No work may be performed under a Chief Operator Hands-Off Tag.*

A Chief Operator hands-off tag may be maintained as long as necessary for plant safety, but should be transferred to appropriate personnel as soon as practical. A

Chief Operator hands-off tag is not intended for long-term layup of equipment, nor transferring custody of equipment between other personnel.

NOTE: *ANY qualified Chief is able to authorize release of a Chief Operator hands-off tag.*

6.2 Remote Site Use of Hands-Off Lock/Tag

1. District workers performing service or maintenance on equipment or machines at a designated District remote site will use hands-off tag/lock system for personal protection. Hands-off tags shall be used only on energy isolating devices for auxiliary mechanical and low voltage (600 volts or less) electrical equipment. Before beginning work, the worker will ensure all sources of energy have been isolated and will apply a safety lock followed by their personal hands-off tag on each isolation point.
2. Upon completion of work, each worker will remove his or her hands-off tag from the isolation point. Only after all tags have been removed can the lock be removed. All tags and locks must be removed from equipment before it can be returned to service. If protection is needed beyond end of shift, the worker shall record location of tag, equipment affected, date, and a brief description of work in progress in the facility log or with the facility caretaker. The worker shall also inform their Foreman and/or Supervisor with the same information upon returning to their headquarters.
3. Upon completion of work and removal of tags and locks, the worker will record information in the Facility Log. The worker shall also inform their Foreman and/or Supervisor with the same information upon their return to their headquarters.

Remote Sites

- Rocky Reach: Eastbank Hatchery
- Rock Island: Tumwater; Dryden; Chiawawa
- Chelan: Chelan Falls Rearing Facility

6.3 Failure to Remove Hands-Off Tag and Lock at Remote Site

If for any reason a worker's hands-off tag and lock needs to be removed at a remote site and the employee who placed them is not available to remove them, a qualified District employee familiar with the work may, after verifying Crewmember is unavailable and after personal inspection of the equipment, and being authorized by their Foreman or Supervisor, release and remove the employee's hands-off tag and lock.

The qualified District employee removing a tag and lock shall be responsible for recording information with the facility caretaker or in the Facility Log as well as notifying the employee who originally placed the hands-off tag and lock, of the action immediately upon that employee's return to work ([WAC 296-45-17525](#)).

6.4 Special Provisions

6.4.1 Dive Crew

Due to increased safety risk associated with diving operations, special provisions are provided for dive Crewmembers. Reference the Dive Crew Standard Operating Procedure.

6.4.2 Caisson

Due to increased safety risk associated with caisson move, special provisions are provided for Crewmembers. Reference the Caisson Standard Operating Procedure.

6.4.3 Stehekin

Stehekin is a remote facility with unique challenges due to limited access. To perform work requiring energy control that exceeds Hands-Off tag capability, District employees will use Field Clearances. Field Clearances require a minimum of two journey level employees familiar with Stehekin. Employees will review energy control procedures specific to the equipment prior to using a Field Clearance. The two journey level employees will fill out a Field Clearance together utilizing each other for the "review" process. Equipment will be appropriately positioned, secondary devices applied, and numbered 'Stehekin specific' clearance tags will be hung. Energy control verification will then be performed prior to work beginning. Once work is completed, the two journey level employees will release their Field Clearance, remove clearance tag(s) and secondary device(s) and restore equipment back to normal operating condition. Once a Field Clearance is completed, the Field Clearance form will be filed at the Stehekin powerhouse for one (1) year.

Stehekin Operator **does not** have energy control jurisdiction within this Field Clearance process; however the Stehekin Operator will be informed of scope of work and energy control steps taken prior to work beginning and after work is completed

6.5 Safety Tags – In-Plant Clearances

All safety tags used at District generating plants for IPCs shall use numbered clearance tags specific to each hydro facility.

Each location will have a dedicated numerical series of tags labeled with the site name and tag number clearly visible, along with other required information ([WAC 296-45-17515\(7\)](#), ANSI Z535.5, 2011).

No clearance tag shall be placed or removed without an order from the Chief Operator having jurisdiction.

A clearance tag on an energy-isolating device is the worker's guarantee that a device is in the correct position and rendered inoperable. It is not a guarantee that the line or equipment is de-energized. A Clearance Holder or Crewmember may verify energy control/isolation as described in sections 5.4.1 or 5.6.1.5 of this Program.

6.5.1 Safety Tag - District Safety Tag

Clearances issued at generating facilities through System Operations shall use the District Safety Tag. Normally these tags will only be used for work on pole top disconnects and main transformers. All District Safety Tags used for clearances must be filled out and sent to System Operations when complete. (District Transmission and Distribution Energy Isolation Program, 12.00-12.03)

6.6 Contractor Hands-Off Tag and Lock Procedure

6.6.1 Conditions of Use

Hands-off tags shall be used only on energy isolating devices for auxiliary mechanical and low voltage (600 volts or less) electrical equipment. If you are not able to appropriately control energy with one hands-off tag, you must request a clearance or an approved written procedure.

6.6.2 Use of Contractor Hands-Off Tag Outside an IPC

1. The Chief Operator shall be contacted, and authorization must be granted before removing any equipment from service and placing a Contractor Hands-Off Tag.
2. Notification shall be given to affected employees by an authorized District employee before hands-off tags are applied and before they are removed from machinery or equipment (see [WAC 296-45-17525](#)).
3. Before placing a Contractor Hands-Off Tag an authorized District Clearance Holder must have their own hands-off tag in place on affected equipment.
4. Each authorized contractor working on the same piece of equipment must have their own Contractor Hands-Off Tag in place before beginning work.
5. The contractor's name and date shall be written legibly on the tag and shall be attached with a substantial device. The tag shall identify tagged out device and effected equipment on back of tag.

6. The authorized contractor is responsible to inform the Chief Operator (and District representative) of equipment status. If equipment cannot be returned to service before end of shift, worker shall inform the Chief Operator, who will then determine if an IPC will be issued, or if the hands-off tag will remain in place. If tag is to remain in place, affected equipment shall be noted on back of tag.
7. Plant Operators shall maintain a permanent record of tag placement and removal.

6.6.3 Use of Contractor Hands-Off Tag Inside an IPC

While working within the perimeter of an IPC, contractors will be considered Crewmembers and utilize section 6.1.2.

6.6.4 Use of Locks ([WAC 296-45-17560](#))

1. When a circumstance arises that a District approved contractor's energy isolation procedures/policies require a physical lock and tag, approval must be granted from Operations and/or Maintenance Superintendent(s) before locks are placed.
2. Plant Operator shall be contacted, and authorization must be granted before removing any equipment from service and placing a lock. Plant Operators shall maintain a permanent record of lock placement and removal.
3. Before a contractor can place a lock and tag, an authorized District employee must have their own hands-off tag in place on affected equipment. Each authorized contractor working on the same piece of equipment must have their own energy isolation device or lock in place before beginning work.
4. An authorized contractor is responsible to inform the Plant Operator and District representative of equipment status. If equipment cannot be returned to service before end of shift, worker shall inform the Plant Operator, who will then determine if an IPC will be issued or if lock will remain in place.

6.6.5 Failure to Remove

NOTE: *All contractor hands-off tags/locks shall be removed from each energy-isolating device by the contractor who applied the hands-off tag/lock.*

Exceptions:

- A contractor employee higher in authority to the person who placed hands-off tag/lock and who is familiar with the work may, after verifying person who placed the tag is not available and after a personal inspection of equipment, authorize removal of hands-off tag/lock.
- If no contractor of higher authority is available, an authorized District employee familiar with the work may, after verifying person who placed the hands-off tag/lock is not available and after a personal inspection of the equipment, authorize removal of hands-off tag/lock.

- The District employee authorizing removal of hands-off tag/lock will be responsible to contact the Plant Operators for removal of the tag/lock.
- Persons authorizing removal of hands-off tag/lock will be responsible to ensure employee is informed before they resume work at the facility (see [WAC 296-45-17525](#), [WAC 296-45-17530](#), [WAC 296-45-17535](#) and [WAC 296-45-17540\(4\)](#)) (ESCI).

7.0 Definitions

Definitions used in this document shall be interpreted in the most commonly accepted sense consistent with the electrical industry. “Shall”, “Will” and “Must” are used to indicate provisions that are mandatory. “Should” and “it is recommended” are used to indicate provisions that are not mandatory because of variation in work conditions.

If work conditions are of such a nature as to make a rule applicable, the worker shall comply with the rule. Any reference made in this document to a specific gender shall be considered to apply equally to male and female employees and/or contractors.

Affected Person - a person whose job requires them to access areas that may have equipment under Lock-Out/Tag-Out. This does not allow them to perform work within an IPC.

Apprentice/Trainee - an employee who is in training to become journey level.

Authorized Person - a person who tags out machines or equipment in order to perform servicing or maintenance. An ‘affected employee’ becomes an ‘Authorized Person’ when that person’s duties include performing servicing or maintenance covered under this section.

Said person must successfully complete the Energy Isolation LOTO Program for Generation or Transmission and Distribution Energy Isolation LOTO Program annually, and then be authorized by their Supervisor and verified on the current Authorized Switchmen/Clearance Holder list. An Authorized Person may work within the perimeter of an IPC after approval by the Clearance Holder and signing on to the IPC as a Crewmember.

Chief/Operator Maintainer - a qualified employee who has been designated by the District as having authority over switching, clearances and operation of operating facility they are assigned. In this Program, this definition will include employees designated by the District as having authority over switching, clearances and operation of Generation Facilities at Chelan Falls Facilities.

Clearance - authorization to perform specified work or permission to enter a restricted area. A clearance is an assurance given to Clearance Holders that designated equipment:

- Has been isolated from required energy sources
- Is in the requested position
- Is properly tagged with clearance tags
- Will not be operated until after it has been released from clearance

Clearance Holder - Clearance Holder is an individual designated to supervise work under a clearance and is required to be authorized and qualified as a Generation Clearance Holder. This is normally a Foreman, Project Manager, Construction Manager, or Engineer.

Clearance Tags – IPC clearance tags shall include the following information as a minimum:

- IPC number
- Tag number
- Danger Do not Operate
- Component name and/or number
- Required position
- Operator initial ([WAC 296-45-17515\(6\)](#))

Crewmember – an Authorized Person who signs onto a clearance under a Clearance Holder to perform work within the boundaries of the clearance.

De-Energized - free from any electrical connection to a source of potential difference and from electric charge: not having a potential difference from that of the earth.

Emergency - an unforeseen occurrence endangering life, limb, or property.

Energized - electrically connected to a source of potential difference, or electrically charged so as to have a potential significantly different from that of the earth in the vicinity.

Energy Isolating Device - a mechanical device that physically prevents transmission or release of energy, including but not limited to:

- Manually operated circuit breakers
- Disconnect switches
- Manually operated switches by which conductors of a circuit can be disconnected from all ungrounded supply conductors
- Valves
- Mechanical locks and any similar device used to block or store energy.

Energy Source - any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other type of energy.

Equipment - a general term including material, fittings, devices, appliances, fixtures, apparatus, and the like.

Generation Supervisor - an authorized District employee having the title of Superintendent of Hydro Operations, Maintenance Superintendent or Director of Hydro Operations.

Ground - a conducting connection, whether planned or unplanned, between an electric circuit or equipment and the earth. This also includes a conducting body that serves in place of the earth.

Higher In Authority (HIA) - for removal of hands-off tags outside of an IPC, HIA is a person's Foreman or immediate Supervisor. For removal of safety tags when signing off a clearance or transferring a clearance, HIA is the Clearance Holder, a person's immediate Supervisor, or any Generation Supervisor familiar with the work. This applies to contractors as well.

IPC - in plant clearance.

Master Clearance Sheet Cover Letter – A list of the currently active tags on a clearance.

Non-Crewmember – a Non-Crewmember is someone who has not received Energy Isolation LOTO Training.

Public Officials - refers to firemen, forest rangers, guards, policemen, mayors, city managers and other officers of municipalities, counties, states or political subdivisions thereof, when acting in their official capacity.

Qualified Electrical Employee - a person who is familiar and knowledgeable in the construction and operation of the electric power generation, transmission, and distribution equipment involved, and such lines and/or equipment that concerns his/her position and who is fully aware of the hazards connected therewith, or, one who has passed a journey status examination for the particular branch of the electrical trades with which he/she may be connected.

Qualified Person - a person who is familiar with construction of or operation of such lines and/or equipment that concerns their position and who is fully aware of hazards connected therewith.

Safety Tags – District safety tags are of a specified form and color.

- District Safety Tag
- Hands-Off Tag
- Contractor's Hands-Off Tag
- Numbered IPC (clearance) safety tags
- No equipment shall be operated while a safety tag is attached.

Secondary Means - secondary means are an additional physical barrier to operation of a safety tagged component, such as a breaker clip, valve hand wheel restraint device (cable or specifically designed device), valve hand wheel removed, etc.

System Operator - a qualified employee who is designated by the employer as having authority over switching, clearance, and operation of the District's electrical system.

Switch - a device for opening and closing, or for changing the connection of a circuit. In these rules, a switch is understood to be manually operable, unless otherwise stated.

Switching Guideline - formatted information gathered by System Operations and conveyed to District Qualified Switchmen preceding the switching event. This is a "guideline" to be used for informational purposes by Switchmen. Actual switching commands will come in verbal format from the System Operator on the date and time of switching event. Actual verbal instruction may vary from the "Guidelines".

Switching Order - verbal commands by the System Operator to Switchmen on the date and time of switching event.

Switchman - an employee authorized to perform switching on the District's electrical system.

Tag - a system or method of identifying circuits, systems, or equipment for the purpose of alerting employees and others that circuit, system, or equipment is being worked on.

Tagout - placement of a tagout device on an energy isolating device (normally in conjunction with secondary means), in accordance with an established procedure, to indicate that energy isolating devices and equipment being controlled may not be operated until tagout device is removed.

Tagout Device - a prominent warning device, such as a tag and means of attachment, which can be securely fastened to an energy-isolating device in accordance with an established procedure, to indicate that energy isolating device and equipment being controlled may not be operated until the tagout device is removed. Tagout devices, including their means of attachment, shall be substantial enough to prevent inadvertent or accidental removal. Tagout device attachment means shall be of a non-reusable type, attachable by hand, self-locking, and non-releasable with a minimum unlocking strength of no less than 50 pounds force and having a general design and basic characteristics of being at least equivalent to a one-piece, all environment-tolerant nylon cable tie. Where a tag cannot be affixed directly to the energy-isolating device, the tag shall be located as close as safely possible to the device, in a position that will be immediately obvious to anyone attempting to operate the device.

Temporary Protective Grounds – create a secure path to ground for inducted voltage on de-energized power lines, which otherwise could produce great risks to workers.

iTOA (Transmission Outage Application) - the District's accepted protocol to facilitate planning of equipment outages within the District's Transmission, Generation, and Distribution systems. iTOA feeds the information by Western

Electricity Coordinating Council (WECC) into the “COS” planning tool. Contained within the iTOA process is the “Switching Guideline”.

Workman’s Copy – consists of a copy of the *Master Clearance Sheet*, *Crewmember Verification Record*, Additional Tags On sheet, *Clearance Holder’s Hands Off Log*, *Clearance Holder’s Work Log* and a *Non-Crewmember Entry For An In Plant Clearance* for an associated In-Plant Clearance.

8.0 Documentation

Clearance forms (Master and Workman’s copies) shall be kept for a minimum of one (1) year from the date of release. The associated clearance request form should normally be attached and maintained as well. After this time period, these forms may be destroyed/disposed.

9.0 Appendices

- **Appendix A – Tags (forms and/or photos)**
- **Appendix B – Master Clearance Sheet & MCS Cover Letter**
- **Appendix C – Crewmember Verification Record**
 - Sign-On/Sign-Off
 - Additional Tags On
 - Additional Tags Off
- **Appendix D – Clearance Holder’s Hands Off Log**
- **Appendix E – Clearance Holder’s Work Log**
- **Appendix F – Non-Crewmember Entry For An In Plant Clearance**
- **Appendix G – In Plant Clearance Request Form**
- **Appendix H – Clearance Audit Form**
- **Appendix I – Stehekin Hands-Off Tag Log**
- **Appendix J – Stehekin Field Clearance Switching Log**
- **Appendix K – Protective Grounds Log**

NOTE: (ESCI) references the recommended actions of the ESCI 2016 report, “Assessment of Chelan PUD’s Generation Isolation Program”.

APPENDIX A – TAGS



Danger Tag



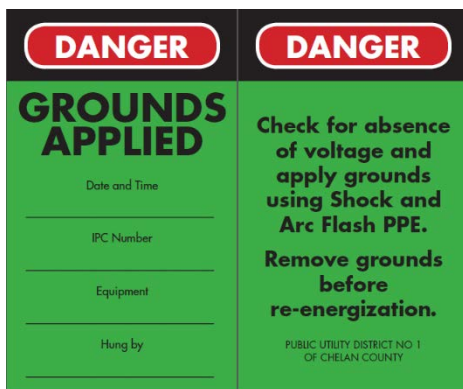
Hands-Off Tag



Contractor Hands-Off Tag



District Safety Tag



Grounds Applied Tag

APPENDIX B – MASTER CLEARANCE SHEET & MCS COVER LETTER

page 1 of 1

Issued To:		Time:	Date: 12/10/2019
Issued by: Chief Operator		Time:	Date: 12/10/2019
Accepted by: X		Time:	Date: 12/10/2019
Released by:		Time:	Date:
Accepted by:	Date: Time:	Released by:	Date: Time:
Accepted by:	Date: Time:	Released by:	Date: Time:
Accepted by:	Date: Time:	Released by:	Date: Time:
Accepted by:	Date: Time:	Released by:	Date: Time:
Notified Dispatch:	Time:	Sys Oper:	Time:

APPENDIX B – MASTER CLEARANCE SHEET & MCS COVER LETTER

MASTER CLEARANCE SHEET COVER LETTER page 1 of 1

This cover letter intended for use in conjunction with existing master clearance sheet. Clearances annotated on this cover letter identify current personnel field protection points as of the date below.

Station:		Clearance No.
Equipment:		Tagged For:
		Printed Date:
Tag Number	Placement	

CREWMEMBER VERIFICATION RECORD

page 2 of 3

[illegible]

rpt012
Dec-10-2019
Time: 10:43

page 1 of 1

[illegible]

APPENDIX E – CLEARANCE HOLDER'S WORK LOG

rpl013
Dec-10-2019
Time: 10:43

CLEARANCE HOLDER'S WORK LOG

page 1 of 1

Station: Rock Island Hydro		DATE: 12/10/2019		Clearance No. 19-224	
Foreman:		Equipment:			
Reason: STANDARD					
ABNORMAL CONDITION	DATE/TIME	ID	BACK TO NORMAL DATE/TIME	ID	FORMAN CHECK INITIAL/DATE

Chelan County PUD In Plant Clearance Request Form



1.0 Clearance Holder

IPC Holder Name: _____ Date Submitted: _____

Phone: _____ Date Clearance Needed: _____

2.0 Location of work

Work location: _____

3.0 Scope of Work (Include perimeter of clearance, identify by circuit, breaker, switch)

--

4.0 Clearance Points Needed (Include all clearance points needed to perform work)

[illegible]

APPENDIX H – CLEARANCE AUDIT FORM

Clearance Audit Form

Date: _____ Designated person performing the audit: _____

Information for the clearance being audited: _____

Equipment: _____

If at any time during the course of this audit a deficiency is identified that is immediately dangerous to life and health, STOP WORK

Gather the following copies to be attached to the audit:

Clearance Request

Master Clearance Sheet

Master Clearance - worker's copy

Is the Clearance Holder on the Authorization List Yes No

Notes: _____

Does the clearance request match the clearance issued? Yes No

Notes: _____

Do the isolation points tagged provide a full perimeter of safety for the scope of work? Yes No

Notes: _____

Is the Master Clearance filled out properly?

Signatures Yes No

Initials Yes No

Dates Yes No

Times Yes No

Notes: _____

Does the MCS match the Workman's copy? Yes No

Notes: _____

Does the information on the tags match the information on the Master Clearance sheet? Yes No

Notes: _____

APPENDIX H cont. – CLEARANCE AUDIT FORM

Are all tags hung properly with Secondary Locking Devices? Yes No

If no, please identify the tags here _____ & correct the issue.

Talk with the Operator who hung the clearance, the Clearance Holder and all affected crewmembers.

Are their responsibilities clearly communicated and understood? Yes No

If no, please explain and add any suggested solutions:

Do any of the crewmembers have concerns with the Energy Isolation process? Yes No

If yes, please explain the concern and any suggested solutions:

Do all crewmembers understand the energy isolation points on the clearance and signed on as crew members? Yes No

Notes: _____

If a tag was removed, were all the crewmembers contacted and informed? Yes No

Notes: _____

Did all crewmembers sign on to any additional tags? Yes No

Notes: _____

Any deviations or inadequacies identified need to be brought to the attention of the Chief Operator and Clearance Holder immediately

Additional Notes: _____

Revised on 11/15/19

APPENDIX I – STEHEKIN HANDS-OFF TAG LOG



Stehekin Hands-Off Tag Log

Date	Time	Valve/Switch Description	Open/Closed	Switchman

Stehekin hands-off tag log(s) shall be turned into Rocky Reach Plant management by the end of each month.

[illegible]

Reviewer Signature: _____

Note: "One Field Clearance Per Sheet"

All Stehekin Field Switching Logs shall be turned into the direct supervisor upon return from Stehekin.

☐

APPENDIX K – PROTECTIVE GROUNDS LOG

PROTECTIVE GROUNDS LOG					
Location:					
Date On	Time On	Initials	Date Off	Time Off	Initials
Date On	Time On	Initials	Date Off	Time Off	Initials
Date On	Time On	Initials	Date Off	Time Off	Initials
Date On	Time On	Initials	Date Off	Time Off	Initials
Date On	Time On	Initials	Date Off	Time Off	Initials
Date On	Time On	Initials	Date Off	Time Off	Initials
Date On	Time On	Initials	Date Off	Time Off	Initials
Date On	Time On	Initials	Date Off	Time Off	Initials
Date On	Time On	Initials	Date Off	Time Off	Initials
Date On	Time On	Initials	Date Off	Time Off	Initials
Date On	Time On	Initials	Date Off	Time Off	Initials
Date On	Time On	Initials	Date Off	Time Off	Initials
Date On	Time On	Initials	Date Off	Time Off	Initials