

B O N N E V I L L E
P O W E R A D M I N I S T R A T I O N



X-ROCH

RULES OF CONDUCT HANDBOOK
FOR
OTHER UTILITY WORKERS

October 2024



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1. PURPOSE

The Rules of Conduct Handbook for Other Utility Workers (X-ROCH) defines the policies and procedures governing access and movement within Bonneville Power Administration (BPA) energized facilities, and for obtaining unescorted access authorization.

2. POLICY

No person is allowed to enter a BPA energized facility unless they have one of the following:

- a BPA issued Permit
- granted access by BPA by completing the requirements in accordance with this document
- an Escort, as defined in section 3

3. DEFINITIONS

Alarm Monitoring Station (AMS)

Monitors all security alarm and video feeds at BPA Energized Facilities with Electronic Card Readers (ECR). AMS phone number is **360.418.2470**.

Energized Facilities

BPA Substations, including substation control houses, all buildings included as part of the substation perimeter or contained within the substation and the high voltage switchyard having energized equipment connected to the high voltage power system.

Facilities with Electronic Card Readers (ECR)

All facilities require an electronic card reader for entry. Control and relay houses at ECR sites, have more stringent sign-in requirements for personnel being escorted. See section 5.4.3, for requirements. Also known as a NERC/CIP Site.

Escort

A permitted person providing escorted access and movement for a non-permitted person within a BPA energized facility whose permit is appropriate to the level of work or supervision of work to be performed by the non-permitted person.

Escort (5:1) Ratio	A ratio limiting the maximum number of non-permitted persons to be escorted to five (5) visitors at a time in an Energized facility, switchyard, or NERC CIP physical security perimeter (PSP).
ID Badge	DOE/BPA (photo) identification badge issued for the purpose of accessing BPA facilities.
Minimum Approach Distance (MAD)	Minimum distance required between energized conductors or equipment and workers, that must be maintained as identified in the Accident Prevention Manual (APM) and the Contractor Safety and Health Requirements.
NERC CIP Site	A building which contains Critical Cyber Assets as defined by NERC. At NERC CIP substations these are the control house and relay house. The substation switchyard is not a NERC CIP Site.
Non-Authorized Individual (NAI)	A person who does not have BPA issued unescorted access to BPA energized facilities. Non-authorized individuals must be escorted by holders of a BPA issued Permit or an ID Badge issued to an Other Utility Worker (OUW) in accordance with the requirements of this handbook.
Non-ECR Site	Facilities without electronic card reader-controlled entry.
Normally Energized	High-voltage power system equipment is considered “normally energized” or could become energized by the closing of an isolating device.

**North American
Electric Reliability
Corporation
(NERC)**

A not-for-profit international regulatory authority whose mission is to assure the effective and efficient reduction of risks to the reliability and security of the power grid.

**Other Utility Worker
(OUW)**

An employee of an electrical utility, having equipment in a BPA energized facility, which requires unescorted access to the facility to maintain or operate their equipment.

**OUW Energized
Access**

Permission for unescorted access to BPA energized facilities, with Electronic Card Readers (ECR), utilizing the individually issued OUW ID Badge. Entry into energized facilities is considered restricted access.

**Physical Security
Perimeter (PSP)**

The physical border surrounding locations in which BES Cyber Assets, BES Cyber Systems, or Electronic Access Control or Monitoring Systems reside, and for which access is controlled. Also known as a NERC CIP Site.

**Qualified
Electrical Worker**

A person knowledgeable in the construction and operation of electric power generation, transmission, and distribution equipment involved, along with the associated hazards. To be considered a QEW, a person must have completed an approved apprenticeship or training program with demonstrated experience and competence in their respective craft as determined by management, and the training required by DOL/OSHA 1910.269 (a)(2)(ii). Only QEW with an Electrical Worker Permit (EWP) is authorized to wear a yellow hard hat.

4. GENERAL OUW ENERGIZED ACCESS INFORMATION

The rules and requirements governing OUW's in BPA facilities, both ECR and Non-ECR sites are covered in sections 4 through 7 of this document.

4.1 Access to BPA Non-ECR Sites

BPA Chief Substation Operators have delegated authority, from the Substation Operations Group, to authorize OUW access to Non-ECR sites within their Operating District.

Requests by Other Utilities for unescorted entry to Non-ECR sites should be made from the Utility directly to the Chief Substation Operator having jurisdiction.

The Chief Substation Operator will work with the requesting Utility to establish a reasonable access process. This is normally accomplished by installing the utility's padlock in parallel with a BPA energized facility padlock on the entrance gate.

4.2 Access to BPA ECR Sites

OUW Energized Access, with an ID Badge, is required for all OUW personnel, who require unescorted access to BPA ECR Sites for work or observation. Unescorted access will only be granted to those persons with a need to enter energized facilities.

4.2.1 Obtaining OUW Energized Access Authorization

To obtain an individual ID Badge, OUWs will work with their company's OU Coordinator and follow the current BPA application process. "BPA's OUW Unescorted Access Process" is available on the BPA website listed below:

<https://www.bpa.gov/energy-and-services/transmission/reliability-nerc-standards>

In addition, each OUW requesting an ID Badge must complete the following:

- An initial Personnel Risk Assessment (PRA), including a Personal Identity Verification (PIV) and favorable Criminal History Check (CHC)
- Annual NERC CIP training that meets the criteria established by NERC CIP requirements
- "OUW Entry Escort Exit" training video will be viewed prior to obtaining access to BPA facilities. The video will be provided by BPA. A password protected email will be provided separately.

- If OUW has not accessed BPA facility within 365 days, the training video and XROCH will be reviewed by OUW before accessing any BPA facilities.

Additional forms and processing time are required to provide ID Badges for Foreign Nationals. Foreign national instructions and questions can be sent to the BPA Customer Service Reliability Program Team at CSReliabilityProgram@bpa.gov.

4.2.2 Electronic Access to BPA Energized Facilities

Electronic access to BPA facilities with ECRs will be assigned to an ID Badge. ID Badges must have a personalized PIN code assigned to it for the card to work at energized facility card readers. If the PIN code is missing from an ID Badge, contact AMS Security for instructions on how to assign a personalized PIN code.

4.2.3 OUW Energized Access Expiration

OUW Energized Access is valid until BPA is informed that access is no longer needed for the individual or if the Criminal History Check (CHC), Personal Identity Verification (PIV), or Annual NERC CIP Training dates become expired.

4.3 Revocation of OUW Energized Access

BPA requires notification, within 8 hours, from the time OUW access is no longer needed. The OU coordinator will:

- Email revoke@bpa.gov
- Call the BPA Revocation Office at 503.230.5625
- Notify CSReliabilityProgram@bpa.gov

5. SUBSTATION SECURITY

5.1 Responsible Party

Security of a substation is the responsibility of the person unlocking the entrance. Do not allow unauthorized persons to enter the substation. While unlocked, doors or gates must be physically attended at all times.

The last person out of an energized facility assumes the responsibility of making certain that all perimeter entrances and windows are closed and locked.

At NERC CIP sites, the first person who enters the facility must disarm the alarm panel. Each person with energized access must use their ID badge and PIN prior to entry at the card reader and PIN pad. Tailgating is not allowed for entry or exit of an energized facility.

Each person with energized access must present their ID badge to the exit reader prior to exiting the facility. The last person to leave must verify that the alarm panel is armed prior to exit. Detailed instructions are posted at each NERC CIP site.

Personnel who are authorized access but have lost, misplaced, or forgotten their ID badge must call AMS at 360-418-2470 when they enter and exit a NERC CIP site to have AMS manually log the person in and out.

5.2 Substation Access Protocol

Personnel entering a Substation who are unfamiliar with the facility or are infrequent visitors to the facility shall contact District Substation Operations prior to entry for information on known hazards.

All persons performing work at an energized facility shall inform the Substation Operator having jurisdiction prior to beginning work and at the conclusion of the work. District phone numbers for District Substation Operations are listed in Attachment D of this document and on the Substation Information Directory posted at each substation.

Entry and exit during normal working hours do not require contacting the control center having jurisdiction, unless BPA is on a high alert (SECON 1, Severe). Entry and exit outside of normal working hours require contacting the control center having jurisdiction. Normal working hours are considered 0600-1800, Monday through Friday.

When responding to trouble at any time, entry requires contacting the control center having jurisdiction. Contact numbers are posted on the Substation Control of Entry sign (Figure A) located on the substation entry door or gate.

Control of entry and exit to a facility under construction is the responsibility of the Construction and Maintenance Services Group, within Transmission Field Services or the Project Contractor until any portion of the station is released to System Operations.

The name of the construction supervisor or the Test and Energization Engineer in charge is prominently posted in the control house and/or temporary project headquarters. Control of entry to a facility in which any part has been released to System Operations is the responsibility of the district Substation Operations. The Chief Substation Operator is responsible for posting "Substation Control of Entry" signs.

BONNEVILLE POWER ADMINISTRATION

[SUBSTATION NAME]

SUBSTATION CONTROL OF ENTRY

CONTACT PERSONNEL

Contact the following personnel for information regarding entry to this substation, to report a fire, an injury incident in the substation, breach of security, unauthorized entry.

BPA MUNRO DISPATCHER > SPOKANE, WA

(509) 465-1820 (24 HOURS)

OR

(509) 465-1826 (24 HOURS)

If uncertain of the station name, locate the name from the sign on perimeter fence or at the entrance to the station.

Figure A

5.3 Entry, Exit and Work Performed Logging

5.4 All Energized Facilities

A Substation Operating Log is required at each substation. A Substation Security Log is required at NERC CIP substations and may be used at other substations. Each person entering an energized facility is required to sign in and sign out of the Substation Security Log or the Substation Operating Log if the Substation Security Log is not used.

The required information to enter into the logbook, when signing in is:

- First and last name of each person entering
- Date and time of entry and departure
- Reason for entry
- Organization represented
- Escort's name if applicable
- Escort Location (checkbox; Yard, and/or PSP)

All work performed in a substation is to be documented in the Substation Operating Log.

The person in charge of a crew may sign in and out all workers, listing each person's name with other required information stated above.

The following Instructions (Figure B) are located inside the front page of the Substation Operating Log and serves as a reminder of the required information that must be entered into the log.



INSTRUCTIONS

THE FOLLOWING INFORMATION SHALL BE ENTERED IN THE SUBSTATION OPERATING LOG:

1. Name, organization represented, date, time of entry and departure, escort name (if applicable) and reason for EACH person entering. (This information shall be logged in the Substation Security Log, if one is provided.)
2. Work performed while in the substation, including adjustment or changes to equipment.
3. Routine and trouble switching in the sequence it was performed.
4. Switch Orders are logged exactly as they were written on the Switching Order form. All portions of the Switching Order form shall be logged by the switchman completing the Switching Order.
5. PCB operations, including reason for operation, time, and counter reading.
6. Automatic PCB operations:
 - Time of operation and counter reading.
 - Reason for operation.
 - Relay targets, abnormal meter readings, equipment temperatures and voltages.
 - Name, location and title of person(s) to whom the trouble is reported.
 - Weather conditions, if pertinent to the trouble.
7. Following equipment inspections, log the status: normal, problems found, and/or abnormal conditions found.
8. ALL LOG ENTRIES ARE TO BE MADE IN INK. IF A MISTAKE IS MADE, IT IS TO BE LINED OUT AND INITIALED.
9. LOG THE FOLLOWING USING RED INK:
 - AUTOMATIC PCB OPERATIONS.
 - GROUND SWITCH OPERATIONS.
 - CLEARANCES AND HOLD ORDERS ISSUED BY OR RELEASED TO THE OPERATOR.

Figure B

A Substation Entry sign (Figure C) shall be posted at the entrance to a substation, stating responsibilities of each person entering a substation. These responsibilities are to be strictly followed. **Please note: Failure to arm the alarm panel upon departure is the most common violation.**

U.S. DEPARTMENT OF ENERGY - BONNEVILLE POWER ADMINISTRATION
SUBSTATION OPERATIONS

816 F-6116.31
(12-12)
(Prior edition obsolete)

ATTENTION

SUBSTATION ENTRY OR EXIT

Each person entering this substation is responsible for:

1. SIGNING THE SUBSTATION OPERATING LOG BOOK OR SECURITY LOG BOOK
 - A. DATE AND TIME OF ENTRY AND DEPARTURE
 - B. NAME (Supervisor may list each crew member by name)
 - C. ORGANIZATION REPRESENTED
 - D. REASON FOR ENTRY
2. RECORD WORK ACCOMPLISHED IN SUBSTATION OPERATING LOG BOOK
3. ANY PERSON ENTERING OR EXITING A SUBSTATION THAT IS UNATTENDED SHALL CONTACT THE APPROPRIATE DISPATCHER CONTROL CENTER IF ENTRY OR EXIT IS,
 - A. AFTER NORMAL WEEKDAY WORK HOURS
 - B. ON WEEKENDS AND FEDERAL HOLIDAYS
 - C. FOR SWITCHING OR A CALL OUT
 - D. ANY TIME THE SYSTEM IS ON HIGH SECURITY ALERT

Figure C

5.4.2 NERC CIP Sites – Security Log

At NERC CIP Sites the Substation Security Log will contain an Escort Location column to designate whether persons being escorted will be entering the Physical Security Perimeter (PSP) and/or Yard. The PSP is the building(s) containing critical cyber assets officially designated as the NERC CIP Site.

If the person(s) being escorted will not be entering the control house or relay house, then check the box under “Yard.” If they will be entering the control house or relay house, then check the box under “PSP.” If they will be entering the yard and control/relay house, then check both the “Yard” & “PSP” boxes.

5.4.3 Escorting

5.4.4 All Energized Facilities

Entry into, exit out of, and movement within an energized facility by a non-permitted person requires an Escort. Escorts must hold a Permit which would allow them to perform work at or above the level of the work to be performed by the person(s) being escorted. Non-permitted persons require the continual presence of the Escort.

A ratio limiting the maximum number of non-permitted persons to be escorted to five (5) visitors at a time in an Energized Facility, switchyard, or NERC CIP physical security perimeter (PSP).

An authorized Escort providing access and escorting duties is responsible for adherence of non-permitted persons to all applicable rules including, but not limited to:

- Access to energized facilities
- Escorting
- Substation security
- Applicable Accident Prevention Manual (APM) rules and procedures
- Knowledge and understanding of the Contractor Safety and Health Requirements for Prime and Subcontractors

If the persons being escorted will be entering within 15 feet of voltages up to 345 kV or 20 feet for voltages above 345 kV, on foot or in a vehicle, the escort shall provide each non-permitted person the following information for each substation in which they are being escorted:

- Procedure for identifying energized equipment in accordance with OSHA 1910.269 (a)(2)(i) and (a)(2)(ii)
- All voltages present in the yard and how to identify voltage level of specific equipment
- The Minimum Approach Distance for all voltages in the yard
- The hazards associated with violation of the Minimum Approach Distances

Non-permitted persons who are working continuously at the same location need only be given the above information on the first day. If their work at the location is interrupted for more than five days, the Non-permitted person must be given the above information again by the Escort on re-entry into the substation.

Contractors needing an Escort for Permit related training or exam shall be provided an Escort by the sponsoring work group or Contracting Officer.

Personnel providing escort shall be responsible for adherence to the requirements of all parts of Section 5.3 for all persons being escorted.

5.4.5 NERC CIP Sites - Escorting

If personnel being escorted will be entering a control house or relay house at a NERC CIP Site the person providing escort, in addition to fulfilling the requirements of Section 5.3, will be required to call AMS at 360-418-2470 and provide the following information on all personnel being escorted:

- Time of entry
- Escort Name
- Name of NERC CIP Site
- Where they will be entering; the PSP (control house, relay house) and/or Yard
- Is the person an employee (with energized access) or a visitor
- First and last name of each person being escorted
- Organization or Company of person being escorted
- Purpose for Access
- Contact number for escort

Upon exiting the facility, the escort will call AMS and provide the exit time for all personnel being escorted. Calling AMS is only required on the initial entry and final exit. Failure to accomplish the above procedure will violate BPA's Control of Entry rules and NERC CIP-006.

If personnel being escorted will not be entering a control house or relay house, contacting AMS is not required.

5.5 Unauthorized Entry, Breach of Security, Damage, Suspicious Object

Upon discovery of an indication of forced entry or other breaches of security through a door, window, gate, or hole cut in the perimeter fence, or any suspicious object found or damage or destruction of the facility that is a result of actual or suspected intentional human action:

- Withdraw to a safe location and call 911
- Notify the Control Center having jurisdiction. The Control Center number will be posted on a sign on the front door similar to Figure A in Section 5.2. Dittmer Control Center can be reached at 800-392-0816 Munro Control Center can be reached at 877-836-6632
- Contact AMS at 360-418-2470
- Contact the District Chief Substation Operator. (Attachment D)
- If contacted by the news media, refer them to BPA Public Affairs at 503-230-5131

6. SUBSTATION ELECTRICAL HAZARD AWARENESS

6.1 Voltage Identification

All persons requiring unescorted access into, out of, and movement within energized facilities must possess the knowledge and skills necessary to distinguish energized parts from non-energized parts of the electrical equipment, nominal voltage of exposed parts and corresponding Minimum Approach Distances.

Some of the resources available for identifying voltages in energized facilities are:

- Station prints – one-line diagrams are found in the station print cabinet and are the first diagrams in the station prints.
- Mimic bus color codes – The mimic bus on the control panels is a representation of the layout of the equipment located in the switchyard. The color of the mimic bus indicates the nominal voltage of that equipment.

COLOR	NOMINAL VOLTAGES	COLOR	NOMINAL VOLTAGES
Orange	11.5 kV - 13.8 kV	Purple	34.5kV
Green	69 kV	Yellow	115 kV
Red	230 kV	Red/Blue	287 kV
Red/Yellow	345 kV	Black	500 kV

Letter designations for voltage classifications:

- 230 kV, 287 kV, and 345 kV class - letter designation "A"

- 115 kV, 138 kV and 161 kV class - letter designation “B”
- 69 kV class and below - letter designation “L”
- 500 kV class and above – have no letter designation but uses numbers ranging from 4000 to 6999.

Number and size of insulators – The higher the nominal voltage, the more insulators that are required to keep the voltage from shorting to ground. The following are examples of some of the types of insulators used on the BPA system for different voltages:

Cap-and-Pin and Pin Insulators

Cap-and-pin insulators were used before the development of station post insulators. BPA does not use cap-and-pin insulators in new projects, but many are still in service and are nearing end of life. Special solid-core station post replacements for cap-and-pin insulators may be used in the field, when standard station posts cannot be used.

A single, non-stacking cap-and-pin insulator is used up to and including 46 kV.



**34.5 kV Single Unit
Cap & Pin**

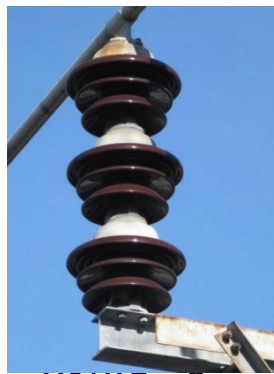


33 kV Pin Insulator

For voltages 69 kV and above, cap-and-pin insulators are assembled in stacks to provide for higher insulator levels.



230 kV Bus Support



115 kV Bus Support

Stacking Cap-and-Pin

These insulators are assembled in stacks for the required voltage rating. They are used for like-replacement and some expansion work of existing 115 kV, 230 kV, 287 kV, and 345 kV installations. They are stacked as follows:

- Two units for 69 kV
- Three units for 115 kV
- Five units for 230 kV
- Seven units for 345 kV

NOTE: Refer to BPA standard drawings for insulator dimensions.



115 kV Disconnect Support



230 kV Disconnect Support

Station Post Insulators

The three main components are the metal end-castings, the porcelain body, and the cementing media between the metal and the porcelain. Station post-type insulators are customarily classified in two groups:

- Non-stacking or single-unit designs from 7.5 kV to 230 kV.
- Stacking units from 115 kV and above.

Outdoor Non-stacking Post Type

These insulators are single unit with threaded holes in the cap and base for cap screw mounting. Non-stacking post insulators are used in 12.5 kV through 230 kV installations.



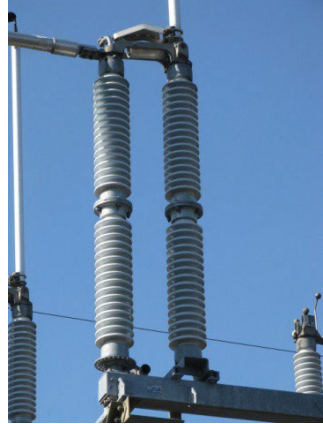
34.5 kV Non-Stacking Post

Outdoor Stacking Post Type

These insulators are comprised of multiple sections bolted together into a stack. Insulators for use at 500 kV may have a BIL of 1550 kV or 1800 kV depending upon the substation requirements.



115 kV Disconnect



**230 kV Disconnect
Hinge End**

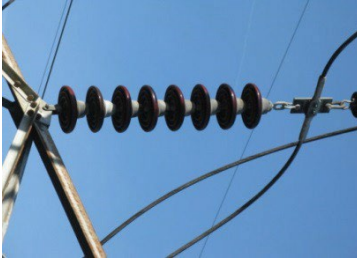


230 kV Disconnect

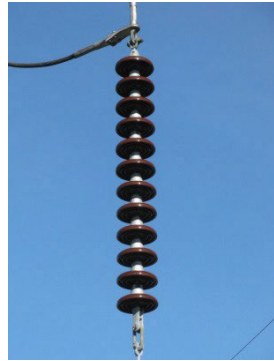
Strain Bus Insulators

The American National Standards Institute (ANSI) standard insulator most commonly used is the ball-and-socket suspension type.

The number of units used in a string is approximately proportional to the line-to-ground voltage times 10.



115 kV Strain Bus



**230 kV Riser Bus
in Bridge**



230 Line Dead End

6.2 Arc Flash Hazards

BPA Work Standard BPA-WS-11-6, Shock & Arc-Flash Hazard Assessment & PPE, defines work standards required for personnel protection from shock and arc-flash hazards. All permitted personnel shall be familiar with this work standard and adhere to the requirements defined therein.

6.3 Substation Electrical Hazard Cautions

If you do not hold an Electrical Worker Permit:

- Do not operate any switches, other than light switches, Attended/Unattended switches, NERC CIP pin pads, or other switches required for entering or exiting substation sites, without permission of a Qualified Electrical Worker. Light switches are normally toggle type wall switches. At some locations, control of the building interior lights may be an air circuit breaker (ACB) in an electrical panel. If the ACBs in the panel are not clearly labeled or there is a question as to the proper ACB to operate, do not attempt to operate any ACB. Attended/Unattended switches are normally a small toggle type switch on a panel and should be clearly labeled. If the toggle switch is not clearly identified, do not operate the switch.
- Do not touch or operate control switches. There are numerous buttons and switches in control houses and switchyards. Only qualified employees operate these control switches.
- Do not touch or reset relay targets, annunciator windows, or alarms. Relay targets, annunciator indications, and alarms help the substation operator and power system dispatcher to ascertain and analyze substation and power system trouble.
- Do not bump, jar, tamper with, or remove covers from relays or control equipment. Removal of relay and equipment covers is a task to be performed by those who operate and maintain them.
- Do not contact any bare conductor, terminal, bus, etc. No person shall contact any high voltage electrical parts unless this equipment has been properly isolated from the electrical system and grounded, as determined by a Qualified Electrical Worker.
- Do not throw or toss objects in or around substations or switchyards. Throwing or tossing objects in energized facilities including switchyards is not allowed at any time.

- Do not disturb or remove any tags. Tags are placed on controls and equipment to provide protection to workers and ensure proper operation of equipment. If a tag is found on the floor or on the ground, report it to a BPA Qualified Electrical Worker.

7. WITHDRAWAL OF OUW ENERGIZED ACCESS

OUW Energized Access may be revoked at any time by a responsible BPA management official for failure to follow these procedures, including, but not limited to:

- Demonstrated lack of skill or knowledge or unwillingness to follow established safety rules, procedures or safe work practices.
- Documented cases showing lack of sound and mature judgment.
- Breach of BPA security policy or established NERC CIPO entry procedures, as outlined in the X-ROCH.
- Individuals under investigation by Federal OSHA or state OSHA-equivalent, or a BPA appointed Incident Assessment Team (IAT).

8. SUMMARY OF CHANGES

March 2015

James Vinson – TOZ

1. Added section 4.1 defining requirements for access to Non-ECR sites.
2. Revised section 6.1 to reflect present insulator types being used by BPA.

November 2015

James Vinson – TOZ

1. Section 4.3 – Added section on Revocation of OUW Energized Access.
2. Section 5.4.3 – (Escorting) ECR Sites changed requirement for calling AMS.
3. Section 8.4.1 – Added requirement that escorts give NAIs being escorted information on voltage identification.
4. Attachment A & B – Added new forms.

December 2015

John Baker – TOZ

1. Reformat entire document.
2. Rewrite entire document for clarity.
3. Correct grammatical errors.

January 2017

Jim Vinson/Craig Adams – TOZ

1. Section 3, Definitions- added and defined Physical Security Perimeter and NERC-CIP.
2. Edits throughout the document for correction and clarity.
3. Section 5.2, Substation Access Protocol- added SECON1, Severe in reference to “high alert”.
4. Section 5.3, Entry, Exit and Work Performed Logging- added PSP reference and corrected for new process.
5. Section 5.4.3, ECR Sites, Escorting- added escort duties and logging requirements for PSP entry.
6. Section 5.5, Unauthorized Entry/Breach of Security/Damage/Suspicious Device- added notification of AMS.
7. Attachment D- updated Substation Operations Group Staff information.
8. Attachment E- removed Substation Security Log form, since it is no longer used.

April 2017

Ken Lanehome/Donna Fields – TPCR

1. Correct grammatical errors.
2. Edits throughout the document for correction and clarity.
3. Section 6.3, Added Arc Flash Hazards
4. Added most common violation in Section 5.2

October 2018

Ken Lanehome/Donna Fields – TPCR

1. Correct grammatical errors.

December 2019

Ken Lanehome/Donna Fields - TPCR

1. Updated Sections 5 and 6 to be consistent with ROCH sections 8 and 9 dated November 2019.
2. Added safety staff list.
3. Updated contacts.

February 2020

Deborah Dunn - TPCR

1. Switch caption on Cap and Pin Insulator.
2. Updated dates, page numbers and formatted document.

October 2021

Ron Sporseen, Deborah Dunn, Lani Haloulos

1. Reformatted and updated, realigned, grammatical corrections.
2. Escort Ratio 5:1-Added definitions and section 5.4.0.
3. Updated Attachment D-Contacts.

October 2022

Ken Lanehome, Deborah Dunn, Lani Haloulos

1. Reformatted and updated, realigned, grammatical corrections.
2. Updated Section 4.2.1 to include OU Coordinator wording and added bullet to address “OUW Entry Escort Exit” video process.
3. Updated Safety Staff Contacts

October 2023

Deborah Dunn/Lani Haloulos/Carlwin Windom

- 1.Reformatted and updated, realigned, grammatical correction.
- 2.Added requirement to contact the District Chief Substation Operator regarding Unauthorized entry, Breach of Security, Damage, Suspicious Object (section 5.5).
- 3.Updated Attachment D-Contacts.
- 4.Replaced NEMA with ANSI under Strain Bus Insulator description.
- 5.Added updated Pin and Challenge form.
- 6.Section 6.1 – corrected descriptions for pin insulator and non-stacking cap and pin to match ROCH.
- 7.Included link to the external BPA Reliability & NERC Standards site for access to the BPA Work Standard BPA-WS-11-6
- 8.Updated definitions to better match the ROCH.
- 9.Updated Access form (attachment A) with most current document.
10. Removed Arc Flash protection guidance.

October 2024

Deborah Dunn/Lani Haloulos

1. Section 3 Definitions-Removed proximity card definition
2. Section 5.1: Substation Security/Responsible Party-Removed the term “proximity card” since their use was retired on 9/30/2024
3. Attachment D: Contact-Updated Daron Rassum phone number and added Jason Duckwall

Attachment B – OUW PIN & Challenge Questions Worksheet



Bonneville Power Administration OUW PIN & Challenge Question Worksheet

Purpose: This worksheet is to be used only by Other Utility Workers (OUWs) who have a need to access Bonneville Power Administration (BPA) controlled areas where a PIN is required for entrance.

BPA's Physical Access Control System (PACS) requires the use of a 4-digit PIN code for access to specifically identified areas within BPA. These areas include, but are not limited to NERC CIP field sites. OUWs who require physical access permissions for these areas need to establish a personalized PIN, which will be associated with the access card issued to the OUW.

Note: The following responses will be required from the OUW during the access card verification and activation process

1. PIN RETRIEVAL

If an OUW forgets their PIN, they can contact a designated POC to retrieve their PIN. The POC will ask the OUW their security question and the OUW will provide the answer to their security question in order to validate their identity. The following POC's may be contacted to retrieve PINs:

- Alarm Monitoring Station (*primary*) – 360-418-2470
- The Badging & Access Hotline (*alternate*) – 503-230-4382

2. PIN SELECTION

Step 1 – Print your name (Please print legibly):

Name (Last)	First	MI
-------------	-------	----

Step 2 – Choose a PIN number for your access card. Select 4 numeric digits (example – 1130):

- Do not choose numbers that are confidential or Personally Identifiable Information (PII) such as the last four digits of your social security number.
- Numbers that are not accepted include four repeating numbers (e.g. – 5555) or sequential numbers (e.g. – 1234, 9876).

Write in your selected PIN below:

--	--	--	--

Step 3 – Select one of the three security questions identified below as your security question:

- What was your first car?
- What was your first pet's name?
- What is your favorite movie or book?

Step 4 – Provide the answer to your security question:

Write (please print legibly) in the answer to the security question you selected above:

--

Step 5 – Return this worksheet, via mail, in a sealed envelope addressed to:

If by First Class Mail:

Bonneville Power Administration
P O Box 3621
Portland, OR 97208
Employee Badging NNP-B1

If by Overnight Delivery Service:

Bonneville Power Administration
905 NE 11th Avenue
Portland, OR 97232
Employee Badging NNP-B1

Attachment C – Tags

DO NOT OPERATE TAG (BPA F 6510.11)

(FRONT)

BPA F 6510.11
(11-03)
US DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION

DANGER

DO NOT OPERATE

DO NOT REMOVE THIS TAG WITHOUT AUTHORIZATION

FOR DATA
 SEE OTHER SIDE
 SEE TAG ON _____

(BACK)

BPA F 6510.11
(11-03)

DANGER

DO NOT OPERATE

STATION/LOCATION _____
 EQUIPMENT/CIRCUIT _____

 SWITCHES/DEVICES TAGGED _____

 TAGGED FOR _____
 CLEARANCE NO _____
 CONDITIONS/REASON _____

 Tagged/Placed by _____
 Completed _____ hrs. _____ date _____
 Tag Removed by _____
 Completed _____ hrs. _____ date _____

HOLD ORDER TAG (BPA F 6510.28)

(FRONT)

BPA 6510.28
(8-06)
US DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION

HOLD ORDER

DO NOT OPERATE THIS DEVICE WITHOUT DISPATCHER APPROVAL

DO NOT REMOVE THIS TAG WITHOUT AUTHORIZATION

FOR DATA
 SEE OTHER SIDE
 SEE TAG ON _____

(BACK)

BPA 6510.28
(8-06)

HOLD ORDER

DO NOT OPERATE THIS DEVICE WITHOUT DISPATCHER APPROVAL

STATION/LOCATION _____
 EQUIPMENT/CIRCUIT _____

 SWITCHES/DEVICES TAGGED _____

 TAGGED FOR _____
 CONDITIONS/REASON _____

 TAG PLACED BY _____
 _____ hrs. _____ date _____
 TAG REMOVED BY _____
 _____ hrs. _____ date _____

REMOTE HOLD ORDER PLACKARD AND CONTROLS

HOLD ORDER
DO NOT OPERATE THIS
DEVICE WITHOUT
DISPATCHER'S APPROVAL



1. HOLD ORDER IS ISSUED
WHEN LED IS ON.
2. NO HOLD ORDER WHEN
LED IS OFF.

**SCS
HOLD ORDER
CONTROL**
REMOTE



LOCAL

WORK PERMIT TAG (BPA F 6510.13a)

(FRONT)

BPA 6510 13a
(8-06)

US DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION

WORK PERMIT

THIS TAG DOES NOT PROVIDE
PROTECTION FOR WORKMEN

**DO NOT REMOVE
THIS TAG WITHOUT
AUTHORIZATION**

FOR DATA

SEE OTHER SIDE

SEE TAG ON _____

(BACK)

BPA 6510 2813a
(8-06)

WORK PERMIT

THIS TAG DOES NOT PROVIDE
PROTECTION FOR WORKMEN

STATION/LOCATION _____

EQUIPMENT/CIRCUIT _____

SWITCHES/DEVICES TAGGED _____

TAGGED FOR _____

CONDITION/REASON _____

TAG PLACED BY _____

hrs. | date

TAG REMOVED BY _____

hrs. | date

CAUTION TAG (BPA F 6510.12)

(FRONT)

BPA 6510.12
(8-06)

US DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION

CAUTION

**DO NOT
REMOVE THIS
TAG WITHOUT
AUTHORIZATION**

FOR DATA

SEE OTHER SIDE

SEE TAG ON _____

(BACK)

BPA 6510.2812
(8-06)

CAUTION

STATION/LOCATION _____

EQUIPMENT/CIRCUIT _____

SWITCHES/DEVICES TAGGED _____

TAGGED FOR _____

CONDITIONS/REASON _____

TAG PLACED BY _____

hrs. | date

TAG REMOVED BY _____

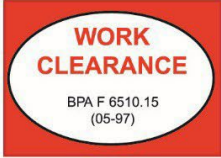
hrs. | date

ELECTRICAL TEST MARKER (BPA F 6510.40)





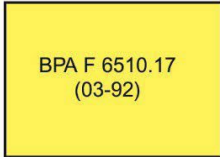
Red Do Not Operate Tag with black border (BPA F 6510.14)



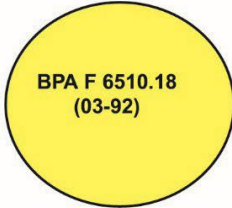
Red Work Clearance Tag (BPA F 6510.15)



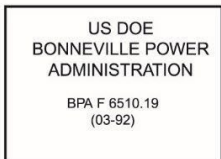
Blue Test Clearance Tag (BPA F 6510.16)



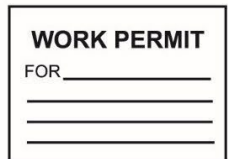
Yellow Caution Tag (BPA F 6510.17)



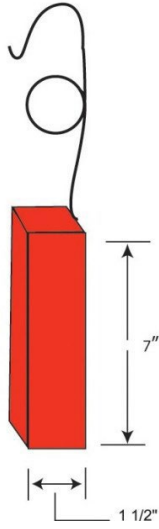
Yellow Hold Order Tag (BPA F 6510.18)



White Work Permit Tag (BPA F 6510.19)



RED WOODEN BLOCK
Catalog ID: 0000197930



Attachment D – Contacts

SUBSTATION OPERATIONS GROUP STAFF

Dave Pruitt, Supervisory Substation Operations Specialist	(360) 418-8071
Kristin Taylor, Substation Operations Specialist-Permitting	(360) 418-2644
Justin Wimer, Substation Operations Specialist-Permitting	(360) 418-2415
Chris Burt, Substation Operations Analyst-Permitting	(360) 418-1698
Angela Black, Substation Operations Specialist-Technical	(503) 682-6268
Eric Cobb, Substation Operations Specialist-Technical	(360) 563-3695
Darron Rassum Substation Operations Specialist-Technical	(541) 516-3224
Jason Duckwall, Substation Operations Specialist-Technical	(360) 624-6540
Suzi Stone, Substation Operations Analyst	(360) 418-2524

SAFETY STAFF

Safety Organization main line – Vancouver	(360) 418-2397
Director of Field Safety	(360) 418-2865
Director of Construction Safety and Contract Oversight	(360) 418-8535
Director of Corporate Safety	(360) 418-2390
North Safety Manager	(360) 418-2398
East Safety Manager	(509) 822-4586
South Regional Safety Manager	(360) 418-2398
Eugene/Salem District Safety Specialist	(503) 304-5924
Olympia/Longview District Safety Specialist	(360) 418-2364
Tri-Cities District Safety Specialist	(509) 544-4705
Redmond/The Dalles District Safety Specialist	(541) 516-3228
Ross Complex Safety Specialist	(360) 418-2022
Snohomish/Covington District Safety Specialist	(425) 866-4050
Spokane/Wenatchee District Safety Specialist	(509) 468-3105
Kalispell/Idaho Falls District Safety Specialist	(406) 751-7814


CHIEF SUBSTATION OPERATORS

Alvey- Eugene District	(541) 988-7011
Ashe-Tri-Cities District	(509) 546-5060
Bell-Spokane District	(509) 468-3129
Big Eddy, - The Dalles District	(541) 296-5114 X134
Celilo-The Dalles District	(541) 296-3615 X386
Chemawa-Salem District	(503) 304-5912
Covington-Covington District	(253) 638-3713
Franklin-Tri-Cities District	(509) 542-5401
Idaho Falls-Idaho Fall District	(208) 612-2111
Kalispell-Kalispell District	(406) 751-7891
Longview-Longview District	(360) 414-5611
Malin-Redmond District	(541) 723-2325
McNary District	(541) 922-6812
North Bend-Eugene District	(541) 751-4011
Olympia-Olympia District	(360) 570-4311
Redmond-Redmond District	(541) 516-3211
Ross-Longview District	(360) 418-2424
Sickler-Wenatchee District	(509) 886-6015
Snohomish-Snohomish District	(360) 563-3613

Attachment E – Signage at BPA ECR Sites

Signage applied to each BPA NERC CIP Site.

*Place outside each Control House/Relay door with card reader/PIN pad.
(Some Relay houses may have more than a single card reader/PIN pad.)*



Initial Entry – NERC CIP Facility

Each person with access to energized facilities **MUST** use their card key and PIN prior to entry.


1. Hold your card key over the entrance card reader by the door (usually about 2 seconds).
2. After the beep, enter your 4 digit PIN (Personal Identification Number) on the keypad.
3. You should hear the door unlock.
4. If the system does not respond – repeat steps #1 and #2.
5. Open the door and enter the building – Check the Alarm panel and Disarm the alarm (if you are the **FIRST PERSON** inside). ***Some Relay houses also have Alarm panels inside – please check their status after accessing the door.**
6. If you are the next person entering (and you have energized access) you must also complete steps #1 and #2 prior to entry (The door does not need to be closed between individual access).
7. If the system is not working after the second attempt, use your physical key to enter the station. (After entering with the physical key, you have 90 seconds to contact the AMS (Alarm Monitoring Station) at (360) 418-2470 or DATS 922-71-2470 or the alarm will sound.) – AMS will disarm the alarm.

All visitors and individuals with unescorted access **MUST** sign the station logbook after entering the facility.

Figure 1. Access Signage for Control House / Relay Door

The Signage on the outside of the door shows the access procedure and the contact numbers to notify the Alarm Monitoring Station (BPA AMS).

Special door sticker – On the outside facing side for ALL doors that are NOT the main entry point for a Control House or Relay House



DID YOU LOG IN?



Each individual with unescorted access to energized facilities must use their issued card key and 4 digit PIN prior to entry when there is a Card Reader and PIN pad present.

Before using this door, you **MUST** have already used your key card and PIN to enter through the main entrance in addition to signing the logbook.

Figure 2. Special Signage Applied to All Secondary Doors

Anyone entering a BPA NERC CIP Site must first enter by the primary door. The signage shown as Figure 2 is applied to the secondary doors to remind authorized personnel to first enter through the primary door so that the BPA AMS is alerted to their presence.

Place inside each Control House with alarm panel



Disarming the Alarm and Logging In – NERC CIP Facility

Each person with access to energized facilities **MUST** use their card key and PIN prior to entry.

If you are the FIRST PERSON entering the building:

1. Make sure the door is closed completely – you have 90 seconds to disarm the alarm.
2. Hold your card key over the "Alarm Shut Off" reader pad by the door.
3. After the beep, enter your 4 digit PIN (Personal Identification Number) on the "Alarm Shut Off" reader pad (DO NOT USE the red alarm panel).
4. The system will turn off the alarm – (the alarm status light will change from RED to GREEN indicating it is disarmed).
5. If the system does not shut off, **IMMEDIATELY** call AMS (Alarm Monitoring Station) to alert them of the issue – (360) 418-2470 or DATS 922-71-2470. AMS will disarm the alarm. **(Call AMS before signing the logbook or proceeding further into the facility).**
6. Sign the station logbook before going any further in accordance with the "Rules of Conduct for Persons Entering BPA Energized Facilities."

If you are NOT THE FIRST PERSON entering the building:



1. Check the red alarm panel – it should have a green light – indicating it is DISARMED.
2. If the alarm light is RED follow steps #3, #4, #5 as listed above – you have 90 seconds to disarm the alarm.
3. Sign the station logbook before going any further in accordance with the "Rules of Conduct for Persons Entering BPA Energized Facilities."

All visitors and individuals with unescorted access MUST sign the station logbook prior to proceeding further.

Figure 3. Signage for the Interior of the BPA Facility

The signage shown in Figure 3 is located inside the BP NERC CIP Site adjacent to the alarm panel and includes the BPA AMS phone numbers.

Place inside each Relay House with alarm panel



Disarming the Alarm and Logging In – NERC CIP Facility

Each person with access to energized facilities **MUST** use their card key and PIN prior to entry.

If your Relay House has an Alarm panel:



1. Check the Alarm panel (if present) to determine if it is armed or disarmed (status color will be RED for armed and GREEN for disarmed).
2. If it is disarmed – do nothing (status color is GREEN).
3. If it is armed (status color is RED), make sure the door is closed completely – you have 90 seconds to disarm the alarm.
4. Hold your card key over the "Alarm Shut Off" reader pad by the door.
5. After the beep, enter your 4 digit PIN (Personal Identification Number) on the "Alarm Shut Off" reader pad (DO NOT USE the red alarm panel).
6. The system will turn off the alarm – (the alarm status light will change from RED to GREEN indicating it is disarmed).
7. If the system does not shut off, **IMMEDIATELY** call AMS (Alarm Monitoring Station) to alert them of the issue – (360) 418-2470 or DATS 922-71-2470. AMS will disarm the alarm. **(Call AMS before signing the logbook or proceeding further into the facility).**

All visitors and individuals with unescorted access MUST sign the station logbook.

Figure 4. Signage Installed Inside Relay House

The signage shown as Figure 4 provides detailed instructions on how to gain access to the Relay House and the process for de-activating the Alarm if it is activated.

Place inside each Control House with alarm panel



Exit Process and Arming the Alarm – NERC CIP Facility

If you are NOT the LAST PERSON leaving the substation, complete the following BEFORE exiting the building:

1. Sign out in the station logbook in accordance with the "Rules of Conduct for Persons Entering BPA Energized Facilities".
2. Hold your card key over the Exit card reader by the door (usually about 2 seconds).
3. You should hear the door unlock. Exit the building after the door is unlocked.
4. If you are the next person leaving (and you have energized access) you must also complete step #2 prior to exiting (The door does not need to be closed between individuals leaving the building).
5. If the Exit card reader does not respond to your card key, **IMMEDIATELY** call AMS (Alarm Monitoring Station) to alert them of the issue – (360) 418 – 2470 or DATS 922-71-2470 and exit the building.
6. After exiting, make sure door closes completely behind you.

All visitors and individuals with unescorted access MUST sign out in the station logbook prior to exiting the facility.

If you are the LAST PERSON leaving the substation, complete the following BEFORE exiting the building:

1. Check to ensure all doors and windows are closed and secured.
2. Sign out of the station logbook in accordance with the "Rules of Conduct for Persons Entering BPA Energized Facilities."
3. Hold your card key over the Alarm Shut Off reader by the door (usually for about 2 seconds).
4. After the beep, enter your 4 digit PIN (Personal Identification Number) on the "Alarm Shut Off" reader (DO NOT USE the red alarm panel).
5. The alarm status light will change from GREEN to RED indicating it is armed.
6. If the system does not function correctly, check the alarm panel for status messages indicating that a door might not be secured and then repeat steps #3 and #4.
7. If the system does not re-arm after 2 attempts, contact the AMS (Alarm Monitoring Station) to alert them of the issue – (360) 418 – 2470 or DATS 922-71-2470.
8. Once armed (Alarm panel will show a RED light), you have 90 seconds to exit the building or the alarm will sound.
9. Hold your card key over the Exit card reader by the door (usually about 2 seconds).
10. You should hear the door unlock. Exit the building after the door is unlocked.
11. If the Exit card reader does not respond to your card key, **IMMEDIATELY** call AMS (Alarm Monitoring Station) to alert them of the issue – (360) 418 – 2470 or DATS 922-71-2470 and exit the building (move quickly if the alarm has been set correctly).

All visitors and individuals with unescorted access MUST sign out in the station logbook prior to exiting the facility.

Figure 5. Exit Procedure for BPA NERC CIP Site

The signage shown in Figure 5 is the process for exiting the BPA Facility and to activate the Alarm.

Place inside each Relay house with alarm panel



Exit Process and Arming the Alarm – NERC CIP Facility



If you are **NOT the LAST PERSON** leaving the Relay House, complete the following **BEFORE** exiting the building:

1. Hold your card key over the Exit card reader by the door (usually about 2 seconds).
2. You should hear the door unlock. Exit the building after the door is unlocked.
3. If you are the next person leaving (and you have energized access) you must also complete step #1 prior to exiting (The door does not need to be closed between individuals leaving the building).
4. If the Exit card reader does not respond to your card key, **IMMEDIATELY** call AMS (Alarm Monitoring Station) to alert them of the issue – (360) 418 – 2470 or DATS 922-71-2470 and exit the building.
5. After exiting, make sure door closes completely behind you.

All visitors and individuals with unescorted access **MUST** sign out in the station logbook.

If you are the **LAST PERSON** leaving the Relay house, complete the following **BEFORE** exiting the building:

1. Check to ensure all doors and windows are closed and secured.
2. Hold your card key over the Alarm Shut Off reader by the door (usually for about 2 seconds).
3. After the beep, enter your 4 digit PIN (Personal Identification Number) on the "Alarm Shut Off" reader (DO NOT USE the red alarm panel).
4. The alarm status light will change from GREEN to RED indicating it is armed.
5. If the system does not function correctly, check the alarm panel for status messages indicating that a door might not be secured and then repeat steps #3 and #4.
6. If the system does not re-arm after 2 attempts, contact the AMS (Alarm Monitoring Station) to alert them of the issue – (360) 418 – 2470 or DATS 922-71-2470.
7. Once armed (Alarm panel will show a RED light), you have 90 seconds to exit the building or the alarm will sound.
8. Hold your card key over the Exit card reader by the door (usually about 2 seconds).
9. You should hear the door unlock. Exit the building after the door is unlocked.
10. If the Exit card reader does not respond to your card key, **IMMEDIATELY** call AMS (Alarm Monitoring Station) to alert them of the issue – (360) 418 – 2470 or DATS 922-71-2470 and exit the building (move quickly if the alarm has been set correctly).

All visitors and individuals with unescorted access **MUST** sign out in the station logbook.

Figure 6. Exit Procedure for BPA NERC CIP Site Relay Houses

The signage shown in Figure 6 is the process for exiting BPA Relay Houses and to activate the Alarm.

Recommended LABEL stickers for key equipment (for inside devices):



Figure 7. Recommended Labeling of the Alarm Card Readers inside the BPA Facility

Figure 7. Is an example of an Alarm Card Reader inside the BPA facility.

Put on the Outside facing side of all Doors that have Card Readers and PIN Pads



Figure 8. Additional Personnel Instructions Found on the Exterior Face of Primary Doors for BPA Facilities

Figure 8. Reminds all personnel granted Unescorted Access privileges that each person must 'badge-in' individually to the BPA Facility.



Figure 9. Signage Installed on Special Use Doors of BPA Facilities

B O N N E V I L L E
P O W E R A D M I N I S T R A T I O N



SUBSTATION
OPERATIONS GROUP

October 2024