Bonneville
POWER ADMINISTRATION

Equipment Ownership Requirements
STD-N-000011 REVISION 01

Standard Content Owner: TPC

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1. INTENT

This standard provides guidance and requirements for the ownership of interconnection equipment between the Bonneville Power Administration (BPA) and utility customers.

Note: For questions regarding the implementation of this standard, contact the applicable Customer Service Engineer (CSE) in the Customer Service Engineering group.

2. CURRENT REVISION

Revision 01, 09/21/2023: General review of entire document. Added Definitions, Acronyms, and Abbreviations section. Revised references section.

For historical information on what has changed in all previous revisions or updates to this standard, please refer to the background document.

3. DEFINITIONS, ACRONYMS, AND ABBREVIATIONS

3.1 Definitions

Overhead ground wire (OHGW): Overhead ground wire refers to grounded wires typically installed above the transmission line phase conductors or substations to intercept lightning strikes. OHGW is synonymous with ground wire, shield wire, static wire and sky wire, and may also be used to refer to segmented insulated OHGW. OHGW is typically grounded to earth at a minimum of one location.

Right-of-Way (ROW): The corridor of land under a transmission line(s) that is required for operation. As further defined by the International Right of Way Association, a right-of-way is land set aside as an easement or in fee, either by agreement or condemnation. It may also be used to describe the right itself to pass over the land of another.

Terminal Span: The final span of cables (conductor and OHGW, if applicable) that attaches to the substation dead-end structure.

3.2 Acronyms and Abbreviations

ADF: Agency Decision Framework

CSE: Customer Service Engineer

FERC: Federal Energy Regulatory Commission

NERC: North American Electric Reliability Corporation

OATT: Open Access Transmission Tariff

WECC: Western Electricity Coordinating Council

APM: Accident Prevention Manual

MO&O: Maintenance Obligations and Ownership

TLM: Transmission Line Maintenance

O&M: Operations and Maintenance

4. BACKGROUND

The BPA transmission system has a multitude of equipment ownership agreements between BPA and utility customers. Previously, BPA developed an Agency Decision Framework (ADF) document addressing “Replacement of Customer Owned Equipment in BPA Facilities,” which provided the background information for the current BPA standard pertaining to most common equipment ownership concerns. The goal of this standard is to provide a clear and consistent guide to ownership of interconnected equipment.

5. STANDARD EXCEPTIONS

Any deviation from this standard must be requested and submitted in writing in accordance with STD-P-000002, “Standard Compliance and Exception Policy.”

6. POLICY AND APPLICATION

6.1 New Installations

For new equipment installations, follow the policy listed below for guidance.

6.1.1 *High Voltage Equipment and Equipment Control and Protection in BPA Substations*

In accordance with FERC guidance, BPA's Open Access Transmission Tariff, and BPA's Facility Ownership and Cost Assignment Guidelines, this type of equipment will be owned and operated by BPA when installed in BPA substations, unless approved by an exception. Equipment installed inside BPA substations will be installed per BPA standards in effect at that time. Approved exceptions typically require BPA to maintain customer-owned equipment via a MO&O agreement. For existing equipment installations, see Section 6.2.

6.1.2 *Customer-Owned Terminal Spans Entering BPA Substations*

Customers shall own the Terminal Span of conductor and OHGW (if applicable); typically to the hardware connection of the BPA substation dead-end structure (see Figures 1-3 below). The customer will be responsible for the Terminal Span design and will adhere to the following BPA standards:

- STD-N-000001, "Technical Requirements for Interconnection to the BPA Transmission Grid"
- STD-DT-000062, "Right-of-Way (ROW) Width Policy"
- STD-DS-000014, "Substation Electrical Clearance and Insulation Policy"
- STD-DS-000027, "Substation Dead-End Tower Loading Criteria"
- Accident Prevention Manual (APM)

This is not an exhaustive list of BPA standards and policies that may govern Terminal Span design requirements. The customer shall coordinate with BPA planning and engineering organizations to ensure other standards for the design that may be required are adhered to. Transmission Line Project Engineering is the primary BPA organization to contact for coordination of Terminal Span design.

Construction of the Terminal Span will be coordinated with BPA. Typical installation is for a customer to provide conductor (and OHGW, if applicable) "over the fence" to BPA for connection to the substation dead-end structure hardware. Certain situations may warrant a mutually agreed upon deviation from the typical installation.

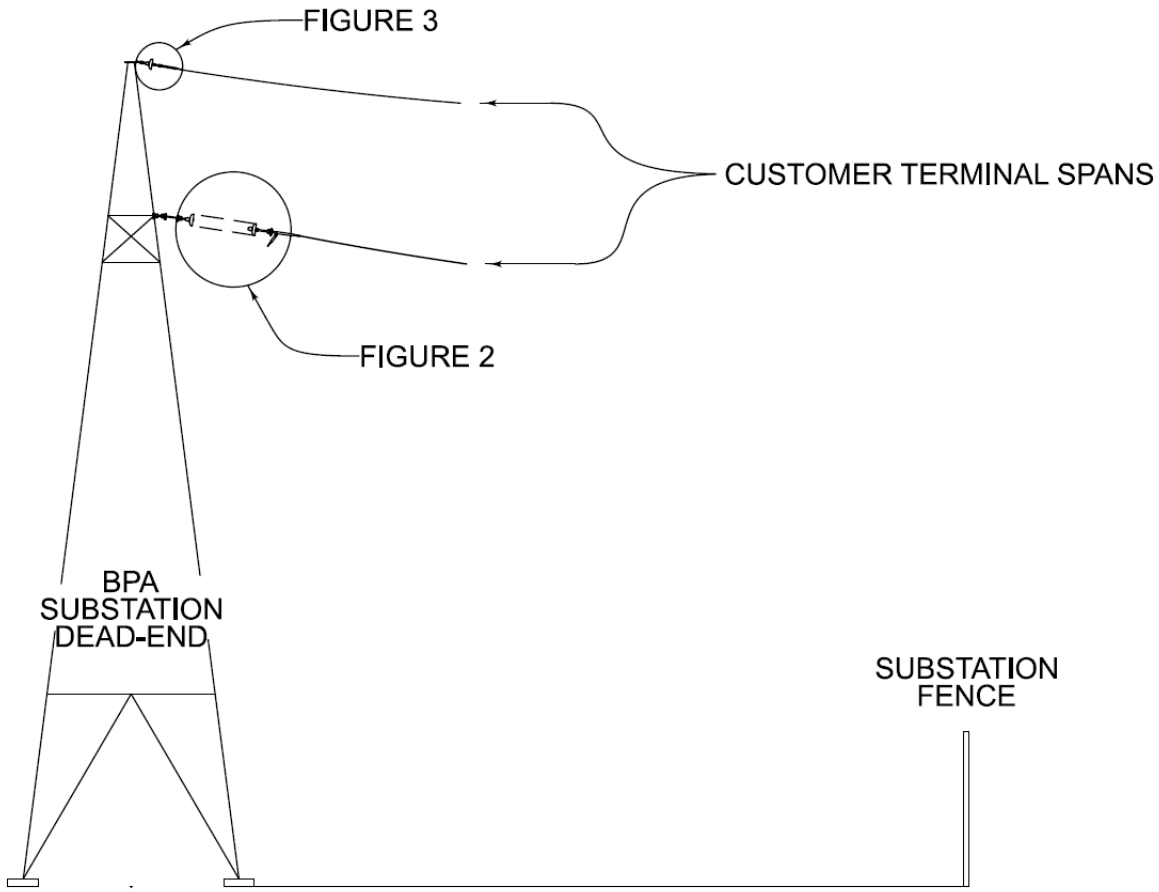

Figure 1. Typical Customer Terminal Span Interconnection to BPA

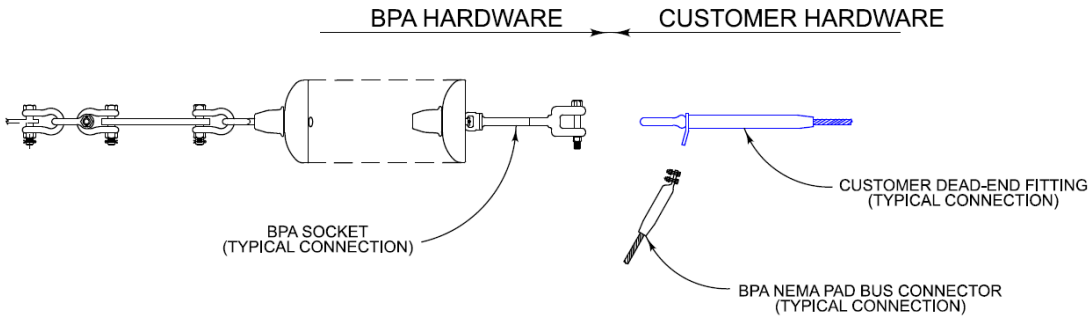

Figure 2. Typical Customer Conductor Terminal Span Demarcation

The Figures 1-3 above and below assume the customer-owned conductor will be one that BPA uses on the system, and that the hardware is similar to BPA's hardware. This is not always the case and sometimes, the customer will use a different conductor with different hardware. These situations may warrant a mutually agreed upon deviation from the typical installation; however, BPA will select a conductor with an ampacity rating greater than or equal to the customer-owned conductor.

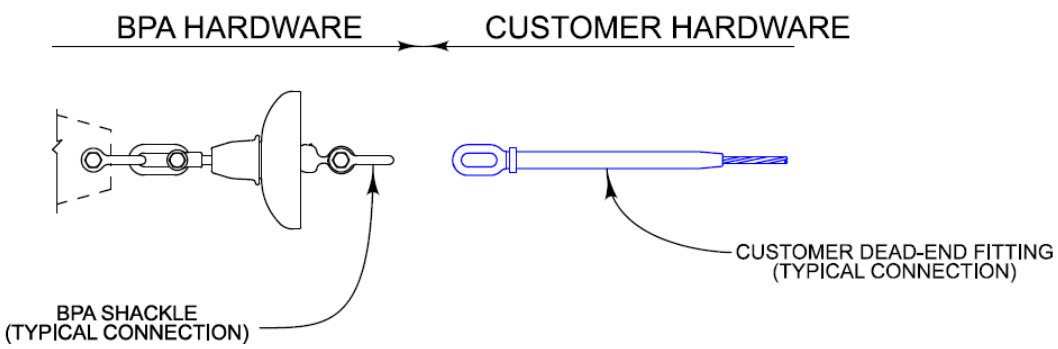

Figure 3. Typical Customer Overhead Ground Wire Terminal Span Demarcation

6.1.3 *BPA Terminal Spans Entering Customer-Owned Substations*

The customer substation design requirements will govern BPA's Terminal Span design. However, BPA reserves the right to work with the customer to implement a design that may not conform to the customer's design requirements, but is mutually agreeable to both BPA and the customer.

6.1.4 *Line Taps and Switches*

These resources contain more information for customer line taps connecting to a BPA transmission line:

- STD-DT-000052, "Taps and Disconnect Switches"
- BPA drawing # 324790, "standard 115kV transmission line switch and tap layout"

BPA equipment ownership:

- Sectionalizing switches added to a BPA transmission line
- Jumpers connecting customer transmission tap line to BPA transmission line
- The continuous path through the BPA transmission line

Customer equipment ownership*:

- Transmission tap line
- Disconnect switches on the customer transmission tap line

*Unless equipment is located inside the fence of a BPA facility.

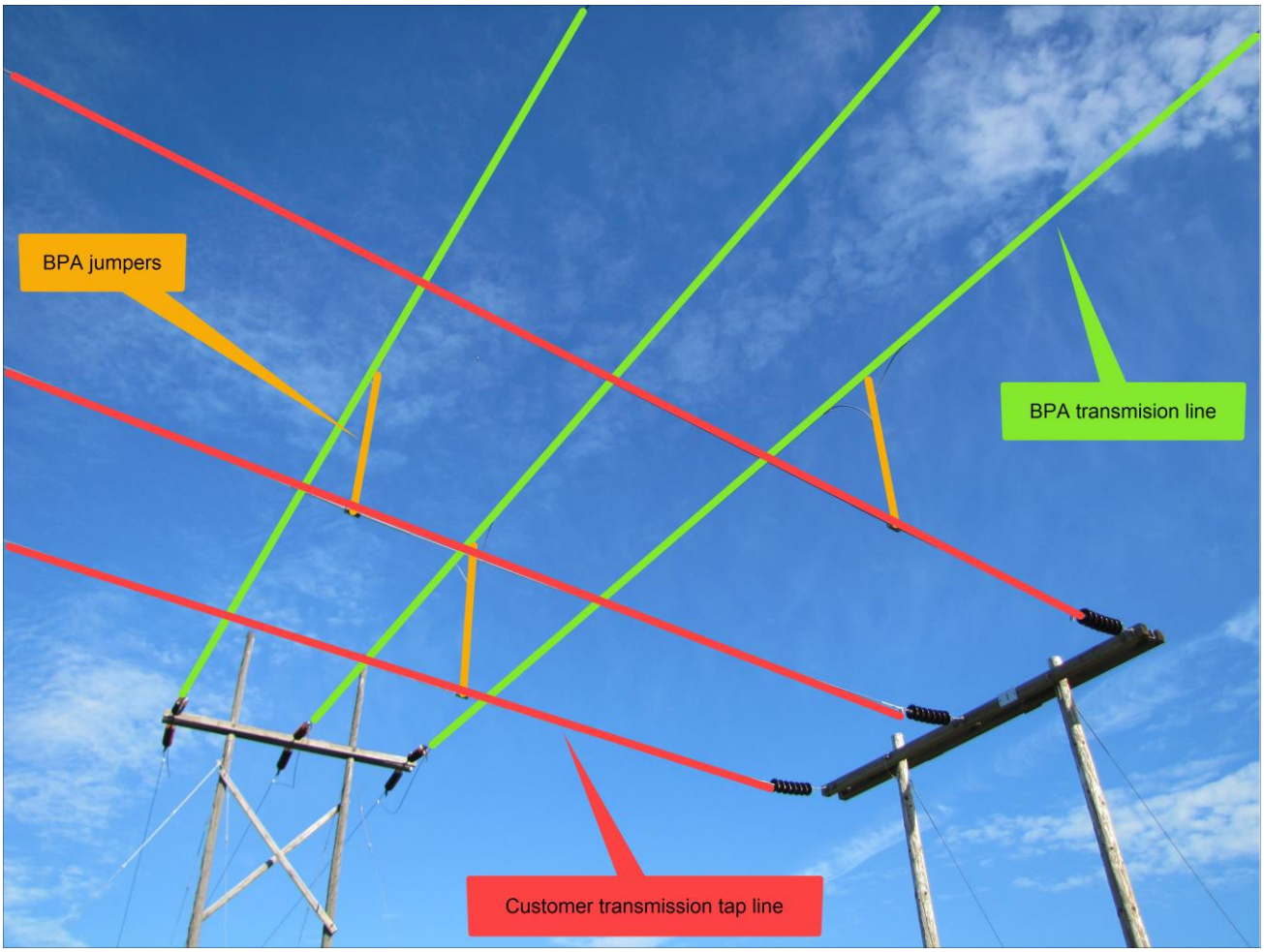

Figure 4. Example 115kV line tap

6.1.5 *Fiber*

See STD-DR-000048, “Foreign Fiber Policy” and STD-DT-000089, “Fiber-Optic Cable Vault, Enclosure, and Splicing Standard,” for more information.

6.1.6 *Metering*

See STD-N-000001, “Technical Requirements for Interconnection to the BPA Transmission Grid” and, STD-DC-000005, “Meter Application Requirements” for more information.

6.2 Existing Installations

For existing equipment installations, follow the policy listed below for guidance.

6.2.1 *Legacy Equipment Demarcation in BPA Substations*

Ownership boundaries of existing equipment will be documented by contracts and drawings that show demarcation details. If no demarcation documentation exists, BPA

will negotiate an agreement with the customer and create new documents that specify the change-of-ownership.

6.2.2 *High Voltage Equipment and Equipment Control and Protection in BPA Substations*

The following guidance is from the BPA Agency Decision Framework (ADF) addressing "Replacement of Customer Owned Equipment in BPA Facilities," which is referenced in Section 4, Background, earlier in this document.

In the event that customer-owned equipment still exists in a BPA substation, BPA will evaluate each instance using the current version of the "Facility Ownership and Cost Assignment Guidelines" whenever replacement of such equipment is recommended by condition assessment, extraordinary maintenance cost, poor reliability, or inadequate rating.

If the identified equipment is deemed part of the Network segment, BPA will negotiate with the customer to remove the equipment and install BPA-owned equipment in its place with the following principles:

- BPA and customer will negotiate disposal costs and logistics.
- BPA will typically fund removal costs of customer-owned equipment if installing replacement BPA-owned equipment.
- BPA will typically remove the customer-owned equipment and place it outside the substation fence for retrieval by the customer. Upon retrieval, customer assumes full responsibility for equipment.
- BPA will not take title to any removed equipment being replaced with BPA-owned equipment. Note: BPA may elect to negotiate a transfer of ownership prior to a required evaluation of equipment replacement, which would require a transaction under the separate Sales & Acquisition (SAC) process.
- O&M agreements will be updated to remove replaced equipment, or terminated if appropriate.

7. SPECIAL CONSIDERATIONS

When addressing equipment ownership, the CSE should be consulted to review any legacy agreements or contracts in place that may take precedent over this standard.

8. REFERENCES

Bonneville Power Administration (BPA), U.S. Department of Energy (DOE). "Accident Prevention Manual." (APM). Portland, Oregon.

Bonneville Power Administration (BPA), U.S. Department of Energy (DOE). DOE/BPA-3406, "Open Access Transmission Tariff." Portland, Oregon.

Bonneville Power Administration (BPA), U.S. Department of Energy (DOE). STD-DC-000005, "Metering Application Requirements." Portland, Oregon.

Bonneville Power Administration (BPA), U.S. Department of Energy (DOE). STD-DC-000048, “Foreign Fiber Policy.” Portland, Oregon.

Bonneville Power Administration (BPA), U.S. Department of Energy (DOE). STD-DS-000014, “Substation Electrical Clearance and Insulation Policy.” Portland, Oregon.

Bonneville Power Administration (BPA), U.S. Department of Energy (DOE). STD-DS-000027, “Substation Dead-end Tower Loading Criteria.” Portland, Oregon.

Bonneville Power Administration (BPA), U.S. Department of Energy (DOE). STD-DT-000052, “Taps and Disconnect Switches.” Portland, Oregon.

Bonneville Power Administration (BPA), U.S. Department of Energy (DOE). STD-DT-000062, “Right-of-Way (ROW) Width Policy.” Portland, Oregon.

Bonneville Power Administration (BPA), U.S. Department of Energy (DOE). STD-DT-000089, “Fiber-Optic Cable Vault, Enclosure, and Splicing Standard.” Portland, Oregon.

Bonneville Power Administration (BPA), U.S. Department of Energy (DOE). STD-N-000001, “Technical Requirements for Interconnection to the BPA Transmission Grid.” Portland, Oregon.

Bonneville Power Administration (BPA), U.S. Department of Energy (DOE). STD-P-00002, “Standard Compliance and Exception Policy.” Portland, Oregon.