

NETWORK OPERATING AGREEMENT
executed by the
UNITED STATES OF AMERICA
DEPARTMENT OF ENERGY
acting by and through the
BONNEVILLE POWER ADMINISTRATION
and
CUSTOMER LONG NAME

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This NETWORK OPERATING AGREEMENT (Agreement) is entered into by the UNITED STATES OF AMERICA, Department of Energy, acting by and through the BONNEVILLE POWER ADMINISTRATION (Transmission Provider) and **CUSTOMER LONG NAME** (Transmission Customer), hereinafter individually also referred to as “Party” and collectively as “Parties.”

RECITALS

The Parties recognize that the Transmission Provider’s Transmission System is directly or indirectly interconnected with transmission systems owned or operated by others and the flow of power and energy between such systems shall be controlled by the physical and electrical characteristics of the facilities involved and the manner in which they are operated;

Part of the power and energy being delivered under these Provisions may flow through such other systems rather than through the Transmission Provider’s facilities. The Parties shall determine methods and take appropriate actions to assure capability for delivery of power and energy at the points of receipt and delivery, and at additional or alternate points of receipt and delivery as established by the Parties;

The provision of Ancillary Services will be addressed in the Transmission Customer’s Network Integration Transmission Service Agreement (Service Agreement);

The parties to this Agreement (Parties) agree to adhere to Good Utility Practice as defined in the Transmission Provider’s Open Access Transmission Tariff (Tariff), including all applicable reliability criteria as observed in the region;

There exists a need to identify operational requirements related to Network Integration Transmission Service over the Transmission Provider’s Transmission System;

In consideration of the promises and mutual covenants and agreements herein contained, the Parties agree as follows:

1. **TERM OF AGREEMENT**

This Agreement will be effective at 0000 hours on the date that this Agreement has been signed by both Parties (Effective Date), and shall remain in effect through the term of the Service Agreement.

In the event that the Agreement is terminated, all liabilities incurred hereunder are hereby preserved until satisfied.

2. **EXHIBITS**

The following Exhibits are hereby incorporated as part of this Agreement:

- (a) Exhibit A Related Agreements
- (b) Exhibit B Other Operational or Technical Interconnection Requirements

- (c) Exhibit C RAS and Relay Schemes

3. OBLIGATIONS OF THE PARTIES

The Parties to this Agreement shall:

Operate and maintain equipment¹ necessary for interconnecting the Transmission Customer with the Transmission Provider's Transmission System. Each party is expected to maintain their own equipment unless otherwise agreed to.

- (a)
- (b) Transfer data² between their respective control centers as required to maintain reliability of the Transmission System.
- (c) Use software programs required for data links and resource dispatching for operational needs.
- (d) Exchange data on forecasted loads and resources necessary for planning and operation.
- (e) Address other technical and operational considerations required for Tariff implementation, including scheduling protocols.

4. DEFINITIONS

Unless otherwise defined herein, capitalized terms refer to terms defined in the Tariff or in the Rate Schedules.

- (a) Automatic Generation Control (AGC)
The real-time control scheme used by all Balancing Authorities to meet the NERC requirement that Balancing Authorities continually adjust generation, as necessary and within predetermined limits, to meet Balancing Authority load requirements and scheduled interchange commitments and its obligation to support interconnected frequency.
- (b) Effective Control Action (ECA)
An action which results in a specific mitigating response at a location(s) in the power system related to the disturbances of concern, thereby providing acceptable power system performance.

¹ Necessary equipment includes, but is not limited to, remote terminal units, metering, communications, telemetering and relaying equipment.

² Data may include, but is not limited to, data pertaining to instantaneous Spinning and Non-Spinning Operating Reserves, heat rates, fuel costs and operational characteristics of Network Resources, generation schedules for Network Resources, interchange schedules, resource outputs, voltage schedules, flows of real and reactive power, loss factors, switch status, breaker status, megawatt (MW)/megaVAr flow on lines, bus voltages, transformer taps and other Supervisory Control and Data Acquisition System (SCADA) and real-time data.

- (c) Operating Reserves
The sum of Contingency Reserves and Regulating Reserves plus any on-demand obligations plus any reserves required for interruptible and recallable imports.
- (d) Operational Constraints
Limitations on the ability of the Transmission System to operate due to any system emergency, loading condition, or maintenance outage on the Transmission Provider facilities, or on facilities of an interconnected utility, that makes it prudent to reduce Transmission System loadings, whether or not all facilities are in service.
- (e) Remedial Action Schemes (RAS)
Sets of fast automatic control actions employed to ensure acceptable power system performance following electrical disturbances as determined by the Transmission Provider power flows and/or stability studies. These may include generator dropping and load tripping.
- (f) Single Contingency
The loss of a single generator, transmission line, transformer, bus section or DC monopole under any operating condition or anticipated mode of operation.
- (g) Technical Requirements For Interconnection To The BPA Transmission Grid
A document that includes the detailed technical requirements for connecting transmission lines, loads and generation resources into the BPA Grid. The Technical Requirements for the Connection of Transmission Lines and Loads and the Technical Requirements for the Interconnection of Generation Resources are posted on the Transmission Provider's OASIS and/or Transmission Provider's external website. Hard copies are available upon request.
- (h) Transmission Customer Resource
Any Transmission Customer-owned resource, regardless of resource location, and any third party (consumer or independent power producer) resource directly connected to the Transmission Customer's transmission or distribution system.

5. INTERCONNECTED FACILITY REQUIREMENTS

- (a) Ownership
 - (1) Equipment or facilities owned by one Party and installed on the property of the other Party shall remain the property of the owner, except as noted in this Agreement.
 - (2) A Party must identify its equipment or facilities installed on the other Party's property. Ownership of equipment or facilities must be made

by affixing permanent suitable markers with the owner's name. The Parties may jointly prepare an itemized list of the aforementioned equipment.

- (3) Each Party agrees to be responsible for the cost of complying with all applicable Federal, State and local environmental laws for its own equipment or facilities, regardless of where the facilities are located.

(b) Safety Design

The Transmission Provider requires clearance of equipment during maintenance, modification and testing. Facility interconnections between the Transmission Provider and the Transmission Customer are to be designed and constructed to allow clearance of equipment using isolation devices. Isolation devices must produce a visible air gap between the energized facilities and the equipment to be maintained, modified or tested. Any operating procedures associated with this interconnection must comply with the Transmission Provider's Accident Prevention Manual and also with the Transmission Customer's safety manual, to the extent that it has been provided in writing by the Transmission Customer.

(c) Access

- (1) Each Party grants permission, subject to site requirements, to the other to enter its property to perform operations, maintenance, meter reading, inspection or removal of their respective equipment installed on the other Party's property.
- (2) If unescorted access is prohibited, then BPA or the Transmission Customer shall allow escorted access during normal business hours. Either Party seeking unescorted access shall be facilitated through separate agreement (such as Other Utility Worker Agreement.)
- (3) Within the limitations of applicable law, in accessing interconnected facilities on the property of another, each Party is responsible for injury or damage to person or property from the intentional actions or negligence of its own employees and agents.

6. RESOURCE AND INTERCONNECTION PRINCIPLES AND REQUIREMENTS

(a) Remedial Action Schemes

- (1) The Transmission Customer may be required (at its cost), to provide or assure the provision of its pro rata share of RAS required to support the transmission capability of the transmission paths the Transmission Customer uses.

- (2) If the Transmission Customer is required to provide RAS, then the Transmission Provider and the Transmission Customer shall jointly plan and coordinate the implementation of the RAS. No Party shall unduly withhold consent regarding the implementation of the RAS. The Transmission Customer may implement the required RAS where it chooses on its system, as long as the required level of ECA is obtained. The level of reliability of the RAS design on the Transmission Customer's system shall be at least equal to the level of reliability employed in the design of the overall RAS required to support the transmission capability of the transmission path the Transmission Customer uses.
 - (A) The Transmission Customer's contribution to the total operational responsibility for the RAS shall be the ratio of the Transmission Customer's usage of the Transmission Provider's share of the transmission path, to the total rating of the Transmission Provider's share of the transmission path.
 - (B) The Transmission Provider shall provide the appropriate control signals to the Transmission Customer.
 - (C) The Transmission Customer shall provide the necessary equipment to receive and transmit control signals to and from its transmission, generation and control center facilities to arm and initiate the appropriate ECA or actions determined by the Transmission Provider.
- (3) Additional information regarding RAS can be found in the Technical Requirements For Interconnection To The BPA Transmission Grid.

(b) Operation of Resources

- (1) The Transmission Customer shall operate its generation resources that interconnect with the Transmission Provider's Transmission System or which are located in the Transmission Provider's Balancing Authority in a manner consistent with Good Utility Practice, and the standards, criteria, and requirements of NERC, WECC, NWPP, the Transmission Provider, and any reliability authority applicable to the Transmission Provider.
- (2) Any resources used by the Transmission Customer to meet its Operating Reserve obligations to the Transmission Provider's Balancing Authority shall meet the same NERC, WECC, NWPP and other applicable requirements, practices and procedures as the Transmission Provider's generating resources providing these same services including, AGC capability, reserve availability, ramp rate, governor response, random testing and startup testing.

(c) Interconnection with Third Parties

- (1) Each Party shall cooperate with other interconnected systems in establishing arrangements or mitigation measures to minimize operational impacts on the other Party's system.
- (2) Each Party recognizes that a Party's proposed new interconnection or modification of an existing interconnection between its system and the system of a third party may cause adverse effects on the system of the other Party. The Party making such interconnection or modification shall minimize or otherwise mitigate adverse operational impacts to the other Party's system.

(d) Interconnection with the Transmission Provider

The Transmission Customer shall plan, construct, operate and maintain its facilities and system that interconnect with the Transmission Provider's Transmission System in accordance with Good Utility Practice, including, but not limited to, all applicable guidelines of NERC, WECC and NWPP, the Transmission Provider and any applicable reliability authority, and generally accepted regional practices.

Additional information regarding Interconnection Requirements can be found in the Technical Requirements For Interconnection To The BPA Transmission Grid.

(e) Generation Integration

- (1) Resources connected directly to the Transmission Provider's Transmission System or which are in the Transmission Provider's Balancing Authority are subject to compliance with the Transmission Provider's generation integration requirements, Good Utility Practice and all applicable standards of NERC, WECC, NWPP, the Transmission Provider and any applicable reliability authority, and BPA's Technical Requirements for Interconnection to the BPA Grid.

All resources integrated into a Transmission Customer's system which, by virtue of their point of interconnection, are capable of energizing the Transmission Provider's facilities, must comply with safety requirements of the above standards, including those for relay protection, insulation coordination, switchgear and safety. This requirement typically applies to generators that are integrated into a system that is connected radially from a tapped Transmission Provider transmission line or Transmission Provider substation. With respect to other resources integrated into a Transmission Customer's network, all points of interconnection between the Transmission

Provider and the Transmission Customer must be operated and maintained in a manner consistent with Good Utility Practice.

(2) The Transmission Customer agrees to notify the Transmission Provider a minimum of eighteen (18) months prior to energization of a resource if such resource is expected to impact the Transmission Provider's Transmission System.

(f) The Transmission Provider has the right to revise the Technical Requirements for Interconnection to the BPA Transmission Grid as it deems necessary or appropriate.

7. CUSTOMER INFORMATION REQUIREMENT

Transmission Customer shall provide annually to the Transmission Provider, plans of any expansions of, or upgrades to, its owned generation or transmission facilities (lines, transformers, reactive equipment, load forecasts, etc.) for each of the subsequent 10 calendar years. To the extent that a Transmission Customer's transmission system is operated by an affiliated transmission provider through a transfer service agreement subject to the Commission's rules relating to Open Access Transmission Service and Standards of Conduct, the Transmission Customer shall ensure it or its affiliated transmission provider provides the Transmission Provider such information. This may include:

(a) Annual and Ongoing Data Coordination Requirements:

(1) Ten Year Load Forecast (refer to Section 29.2 (iii) of the Tariff).

(2) Network Resource Availability Forecast.

(3) Annual load and resource information updates.

(4) Any additional information required from the Transmission Customer as specified by the Transmission Provider's planning process.

(b) Annual Data Exchange Technical Data Details:

(1) The Transmission Customer shall review, validate, and respond to the Transmission Provider's annual data exchange requests:

(A) The Transmission Customer must respond on or before the deadlines set by the Transmission Provider.

(B) Technical data requirements include but are not limited to the following:

(i) Steady-State, Dynamics, Geomagnetic Induced Current (GIC), and Short Circuit data.

- (ii) One lines, facility ratings, facility rating methodology.
- (iii) Date of data validation, notification of latest version of files on record.
- (iv) Other information requested for modeling purposes.

8. POWER QUALITY

Requirements and information regarding Power Quality can be found in the Technical Requirements for Interconnection to the BPA Transmission Grid.

9. SERVICE INTERRUPTIONS

(a) Temporary Load Shifts and Maintenance Notification:

- (1) The Parties may temporarily curtail, reduce or shift deliveries of electric power if any such Party determines that such curtailment, reduction or load shift is necessary or desirable in case of system emergencies, personnel safety, or operational constraints on the system of either Party, or to install equipment in, make repairs to, make replacement within, conduct investigations and inspections of, or perform other maintenance work on the Parties' facilities. To the extent reasonable or appropriate, the Parties shall use temporary facilities or equipment to minimize the effect of any such interruption, reduction or load shift.
- (2) The Transmission Customer must submit a report concerning any such curtailment, reduction or load shift on its transmission system to the Transmission Provider within five (5) business days of such curtailment, reduction or load shift. Reports may be made by telephone, mail or other electronic processes. The point of contact for each Party shall be designated pursuant to the Service Agreement. On receipt of the Transmission Customer's report, the Transmission Provider shall adjust the Transmission Customer's billing determinants pursuant to the Transmission Provider's billing procedures. If the Transmission Customer does not submit the report within five (5) business days of the curtailment, reduction or load shift, the Transmission Provider shall assess charges based on available data.

- (b) Additional information regarding Service Interruptions can be found in the Technical Requirements for Interconnection to the BPA Transmission Grid.

10. EMERGENCY PLANNING AND OPERATION

- (a) The Transmission Provider shall be responsible for planning, coordinating and implementing emergency operation schemes. Examples of such schemes include the NWPP under-frequency Load Shedding program, the under-

voltage Load Shedding program and the system restoration plan. There may be additional schemes that meet the NWPP, WECC, and applicable reliability authority planning objectives. If the Transmission Provider identifies reliability objectives beyond the NWPP, WECC, and applicable reliability authority planning objectives, they shall be communicated to the Transmission Customer. The need to identify additional objectives may involve anticipated reduction in system restoration time following blackout or brownout emergencies.

- (b) The Transmission Customer shall:
- (1) participate in the development and implementation of Load Shedding programs for system security;
 - (2) install and maintain the required Load Shedding relays, including under-frequency and under-voltage relays as reasonably determined by Transmission Provider to meet compliance obligations; and
 - (3) participate in system restoration planning.

Additional information regarding Emergency Planning and Operation can be found in the Technical Requirements For Interconnection To The BPA Transmission Grid.

- (c) Any RAS or relay schemes will be identified in Exhibit C of this Network Operating Agreement.

11. **METERING INFORMATION, COSTS, AND REQUIREMENTS**

The Transmission Customer shall review information and follow requirements related to metering found in the following BPA documents (or successor documents):

- (a) Technical Requirements for Interconnection to the BPA Transmission Grid.
- (b) Metering Application Guide (MAG).
- (c) Responsibilities and Technical Requirements Guide for Transmission Customer Owned Meters (GCM).
- (d) Metering of Existing Facilities:

The Transmission Provider shall be responsible for costs of all Transmission Provider-required new meter installation or meter replacements at a Transmission Customer facility existing on the Effective Date of this Network Operating Agreement. The Transmission Customer may assume this responsibility by mutual agreement of the Parties.

The Transmission Customer shall be responsible for the costs of:

- (1) Any meter replacement or new installation at points of delivery which are not required to achieve the best overall plan of service (convenience points of delivery); and
 - (2) Any meters needed because the Transmission Customer changes Balancing Authorities or is displacing transmission from the Transmission Provider; and/or meters requested by the Transmission Customer.
 - (3) The supporting equipment to the metering system associated with supplying the Transmission Provider funded meter, including, but not limited to the instrument transformers for voltage potential and current flow (potential transformers and current transformers) and associated interconnected cabling, terminal blocks, and switches.
 - a. Transmission Customer is required to notify the Transmission Provider if there are any changes to the supporting equipment to the metering system (instrument transformers specifically) that may affect the meter readings in any way prior to installing the new components so that updated billing arrangements can be implemented.
- (e) Metering of New Transmission Customer Facilities:

The Transmission Provider shall be responsible for costs associated with installation of the Transmission Provider-approved metering at new facilities established after the Effective Date of this Network Operating Agreement that are connected to the Transmission Provider's Transmission System.

The Transmission Customer shall be responsible for the costs of the Transmission Provider approved metering for:

- (1) all points of generation (resource) integration;
- (2) all AGC interchange points; and
- (3) all other points of electrical interconnection, including convenience points of delivery.

12. COMMUNICATIONS

Requirements and information regarding Communications can be found in the Technical Requirements For Interconnection To The BPA Transmission Grid.

13. STANDARD PROVISIONS

(a) Notices

Notices or requests made by either Party regarding these provisions shall be made to the representative of the other Party as indicated in the Service Agreement.

- (b) **Administration Of The Provisions**
In the event of any irreconcilable differences between the Tariff and this Agreement, the language of the Tariff shall govern.
- (c) **Amendments**
Except where this Agreement explicitly allows one Party to unilaterally amend a provision or revise an exhibit, no amendment or exhibit revision to this Agreement shall be of any force or effect unless set forth in a written instrument signed by authorized representatives of each Party.
- (d) **Assignment**
This Agreement is binding on any successors and assigns of the Parties. Neither Party may otherwise transfer or assign this Agreement, in whole or in part, without the other Party's written consent. Such consent shall not be unreasonably withheld.
- (e) **Dispute Resolution**
Disputes arising under this Agreement are subject to the dispute resolution procedures set forth in the Tariff.
- (f) **Entire Agreement**
This Agreement, including documents expressly incorporated by reference, constitutes the entire agreement between the Parties. It supersedes all previous communications, representations, or contracts, either written or oral, which purport to describe or embody the subject matter of this Agreement.
- (g) **Freedom of Information Act (FOIA)**
BPA may release information provided by the Transmission Customer to comply with FOIA or if required by any other federal law or court order. For information that the Transmission Customer designates in writing as proprietary, BPA will limit the use and dissemination of that information within BPA to employees who need the information for purposes of this Agreement.
- (h) **Governing Law**
This Agreement shall be interpreted, construed and enforced in accordance with Federal law.
- (i) **No Third Party Beneficiaries**
This Agreement is made and entered into for the sole benefit of the Parties, and the Parties intend that no other person or entity shall be a direct or indirect beneficiary of this Agreement.
- (j) **Section Headings**
Section headings and subheadings appearing in this Agreement are inserted for convenience only and are not be construed as interpretations of text.

(k) **Uncontrollable Forces**

The Parties shall not be in breach of their respective obligations to the extent the failure to fulfill any obligation is due to an Uncontrollable Force.

“Uncontrollable Force” means an event beyond the reasonable control of, and without the fault or negligence of, the Party claiming the Uncontrollable Force that prevents that Party from performing its contractual obligations under this Agreement and which, by exercise of that Party’s reasonable care, diligence and foresight, such Party was unable to avoid. Uncontrollable Forces include, but are not limited to:

- (1) strikes or work stoppage;
- (2) floods, earthquakes, or other natural disasters; terrorist acts; and
- (3) final orders or injunctions issued by a court or regulatory body having competent subject matter jurisdiction which the Party claiming the Uncontrollable Force, after diligent efforts, was unable to have stayed, suspended, or set aside pending review by a court of competent subject matter jurisdiction.

Neither the unavailability of funds or financing, nor conditions of national or local economies or markets shall be considered an Uncontrollable Force. The economic hardship of either Party shall not constitute an Uncontrollable Force. Nothing contained in this provision shall be construed to require either Party to settle any strike or labor dispute in which it may be involved. If an Uncontrollable Force prevents a Party from performing any of its obligations under this Agreement, such Party shall: (1) immediately notify the other Party of such Uncontrollable Force by any means practicable and confirm such notice in writing as soon as reasonably practicable; (2) use its best efforts to mitigate the effects of such Uncontrollable Force, remedy its inability to perform, and resume full performance of its obligation hereunder as soon as reasonably practicable; (3) keep the other Party apprised of such efforts on an ongoing basis; and (4) provide written notice of the resumption of performance. Written notices sent under this section must comply with Exhibit C.

(l) **Waivers**

No waiver of any provision or breach of this Agreement shall be effective unless such waiver is in writing and signed by the waiving Party, and any such waiver shall not be deemed a waiver of any other provision of this Agreement or any other breach of this Agreement.

14. SIGNATURES

This Agreement may be executed in several counterparts, all of which taken together will constitute one single agreement, and may be executed by electronic signature and delivered electronically. The Parties have executed this Agreement as of the last date indicated below.

New Section on Dispute Resolution under the tariff?

«CUSTOMER LONG NAME»

UNITED STATES OF AMERICA
Department of Energy
Bonneville Power Administration

By:

By:

Title:

Title:

AE Title

If opting out of the electronic signature:

By:

Name:

(Print/Type)

Title:

Date:

EXHIBIT A
RELATED AGREEMENTS

Option 1:

This Exhibit A is not applicable at this time.

End Option 1

Option 2:

EXHIBIT A, TABLE #
RELATED AGREEMENTS

This Exhibit A, Table # (Table) identifies agreements between the Transmission Provider and Customer which may contain additional obligations between the Parties related to this Network Operating Agreement. Agreements shown below are for reference only.

Related Agreement	Contract No.
Operation and Ownership Agreement	18TX-#####
Balancing Authority Area Services Agreement	17TX-#####

**EXHIBIT B
OTHER OPERATIONAL OR TECHNICAL INTERCONNECTION REQUIREMENTS**

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**EXHIBIT C
RAS OR RELAY SCHEMES**