DESCRIPTION:

This document is a supporting document to the BPA STD-N-000001 “Technical Requirements for Interconnection to the BPA Grid”. It details a process required by BPA for a generator commencing approximately 180 days prior to Commercial Operations. This document’s content does not pertain to contractual matters.

Questions should be directed to the BPA Technical Operations (TO) Control Center Coordinator to facilitate better communications and coordination during this phase of construction.

For additional information reference supporting documents:

- STD-N-000001 Number 02 (Generation Commissioning Milestones Required for Commercial Operations)
- STD-N-000001 Number 03 (Generation Commissioning Task Checklist Required for Commercial Operations)
### REVISION HISTORY

- Revision 00 02/10/2022: Initial development of the Checklist.
This diagram represents the critical path for Generation Commissioning Process Flow for Commercial Operations.

- **Milestone 1**: In-Service (Backfed)
  - 180 Days before Initial Sync: Design model completed, RC Modeling Submitted.
  - 90-60 Days before Initial Sync: Initial BPA TOO, AE, Customer Kickoff Meeting.
  - 14 Days before Initial Sync: RAS installed, tested and released to BPA Operations.
  - 3-1 Days before Initial Sync: Notify Control Center teams, Field and any Generation related Orgs of Backfeed completion and upcoming Initial Sync.

- **Milestone 2**: Initial Sync
  - Initial Sync: SCADA control of high-side breaker successful (if applicable).
  - Initial Sync: Successful validation of meter to control center systems.
  - Initial Sync: Successful test of the OCBR/OSM response.

- **Milestone 3**: Trial Operations
  - Any other project specific requirements: TESTING PASSED.
  - Voltage and Frequency Control testing is complete.
  - Initial meter test successful on Generation Meter.

- **Commercial Operations**
  - AE sends Commercial Operations letter to the customer.
  - Generation Capacity Restrictions Removed.

**Note**: A name or ownership change between the CC Activity and Initial Sync, will reset the process back to this point and timeline.
TERM | DEFINITION
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24/7 Contact List | A document that contains both BPA and Customer Contact information (includes phone numbers, website links, and email addresses for plant operators or dispatchers with the capacity to perform immediate operational actions.)
3 Letter Acronym | Represents the current plant owner and/or plant name associated with the EIR. Note: this value is used in multiple EMS systems (e.g. AGC and TSAS).
30 Day Turn Up | Power System Control (PSC) requires 30 days from the time that central alarm monitoring is in place for new radio or fiber equipment to be in operation and monitored until that equipment can be declared operational.
Automatic Generation Control (AGC) | A system that measures instantaneous loads at interchange points (boundaries with adjacent control area) and adjusts generation to follow load. It consists of continuous, real time load signals (kW), telemetered to AGC computers at a transmission control center.
Balancing Authority Area Service Agreement (BAASA) | Is required for a generator with a nameplate capacity greater than 200 kW that is not directly interconnected to the BPA Transmission System and does not have any other type of interconnection agreement with BPA but is generating power within the BPA BAA.
Commercial Operations (CO) | Shall mean the status of a Generating Facility that has commenced generating electricity for sale, excluding electricity generated during Trial Operation.
Commercial Operations Date (COD) | COD of a unit shall mean the date on which the Generating Facility commences Commercial Operation as agreed to by the Parties pursuant appropriate Interconnection Agreement.
Commercial Release | The point when all BPA Operations requirements and Required Voltage and Frequency Control Performance Commissioning Tests are complete. At this point, the customer is scheduling power.
Energy Accounting (EA) | Tracks the KWH produced by generation and interchange. The data used in provisioning other BPA systems and controlling the operation of generation, transmission, loads consistent with scheduled system frequency and voltages.
Energy Management System (EMS) | A control system (often computerized) designed to regulate the balance of generation and load in a control area by controlling the operation of generation, transmission, loads consistent with scheduled system frequency and voltages.
Failure to Comply | Addresses the consequences of non-compliance and how the Failure to Comply Penalty is determined.
Initial Synchronization (Sync) Date | Shall mean the date upon which the Generating Facility is initially synchronized and upon which Trial Operation begins.
In-Service Date | Shall mean the date upon which the Interconnection Customer reasonably expects it will be ready to begin use of the Transmission Provider's Interconnection Facilities to obtain back feed power.
Integrated Curtailment and Redispatch System (ICRS) | BPA's integrated Curtailment and Dispatch System (ICRS) hosts tools for state awareness (Generation Advisor) and for managing congestion on most of BPA's internal Network paths by Dispatch (Curtailment Advisor). All generators subject to OCBR or OSM will submit an ICRS application for "Security Officer" and "Generation Advisor Users" (or update its existing applications with the new generator).
Interconnection Date | The estimated date for interconnection to an Interconnection Party as agreed to by the Interconnection Party and Transmission Services after all necessary studies have been completed. More realistic dates are determined as the project gets closer to energization.
Inter-Control Center Communications Protocol (ICCP) | ICCP is an international standard communications protocol for real time data exchange.
Operational Controls for Balancing Reserves (OCBR) | OCBR is used to prevent generation imbalance from creating an over deployment of balancing reserves in BPA. Balancing reserves is the capacity necessary to balance the load and generation in the BA and is comprised of regulation, load following, and generation imbalance.
Optimizing Generation to Schedule - Limiting variable generation to the scheduled value when there is insufficient DEC balancing reserves available to offset the over-generation. OCBR testing will consist of checking the limit generation to schedule signal from BPA's AGC/SCADA to the plant EMS.
Curtailing Schedules to actual generation - Curtailing generator's schedules/e-Tags when their actual generation output is less than the amount scheduled and there are insufficient INC balancing reserves available to offset the under-generation. Curtailments will come through the plant's scheduling systems.
Over Supply Management (OSM) | OSM will be implemented in oversupply conditions when the Transmissions Provider must displace non-federal generation with generation from the federal hydro system in order to mitigate total dissolved gas levels in the Columbia River.
Plant Data | Includes, but not limited to one-line diagrams, breaker name and numbers, equipment and model identification etc.
Remedial Action Scheme (RAS) | A protection system that automatically initiates one or more control actions following electrical disturbances. Also referred to as 'Special Protection System.' Typical examples include tripping generators or loads and switching of series capacitors, shunt capacitors or shunt reactors.
Small Generator Interconnection Agreement (SGIA) | Is the form of interconnection agreement applicable to an Interconnection Request pertaining to a Small Generating Facility that is included in the Transmission Provider's Tariff. SGIA's are applicable to generators that are greater than 0.2MW and up to 20MW.
Standard Large Generator Interconnection Agreement (LGIA) | Shall mean the form of interconnection agreement applicable to an Interconnection Request pertaining to a Large Generating Facility that is included in the Transmission Provider's Tariff. LGIA's are applicable to generators that are greater than 20MW.
Standard Large Generator Interconnection Procedure (LGIP) | Shall mean the interconnection procedures applicable to an Interconnection Request pertaining to a Large Generating Facility that are included in the Transmission Provider's Tariff.
station backfeed | Station Backfeed is when BPA energizes the new power plant to allow the transformer to start a 24hr soak and the plant will now have station power.
Supervisory Control and Data Acquisition (SCADA) | A system of remote control and telemetering used to monitor and control the transmission system.
Test Energy | Is pre-arranged generation from the Generating Facility that is produced during the Trial Operation of the Facility in order to complete tests that require the plant to be generating. The MW level of the test energy will be agreed upon between the Transmission Provider and Interconnection Customer.
Trial Operations | Shall mean the period during which Interconnection Customer is engaged in on-site test operations and commissioning of the Generating Facility prior to Commercial Operations.

**PERSONNEL**

**ACCOUNT EXECUTIVE (AE)**
BPA's authorized representative to sign the SGIA/LGIA and enforce the contract.

**BPA DISPATCHER**
The BPA Dispatcher or system operator is the ultimate authority on all operations, switching, etc. that can affect the BPA Grid. The BPA Dispatchers work 24/7 in two control centers located at Mead and Vancouver, Washington.

**COMMISSIONING AND TESTING (TAE)**
TETD performs Commissioning and Testing on Communications equipment on the BPA system, including laboratory testing, fiber verification and field installation to achieve project timeline, consistency, cost and scope.

**CUSTOMER SERVICE ENGINEER (CSE)**
BPA technical representative to assist the Account Executives.

**POWER SYSTEM CONTROLLER (PSC)**
BPA department oversees the communication equipment installation and testing.

**SYSTEM PROTECTION & CONTROL (SPC)**
BPA department oversees the protection, metering, and RAS installations and testing.