

TRANSMISSION SYSTEM STANDARD SUPPORTING DOCUMENT

Bonneville
POWER ADMINISTRATION



Generation Commissioning Process Flow for Commercial Operations

STD-N-000001 Number 04 REVISION 00

Standard/Technical Content Owner: TOOC/TOII

DISTRIBUTION STATEMENT:

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.

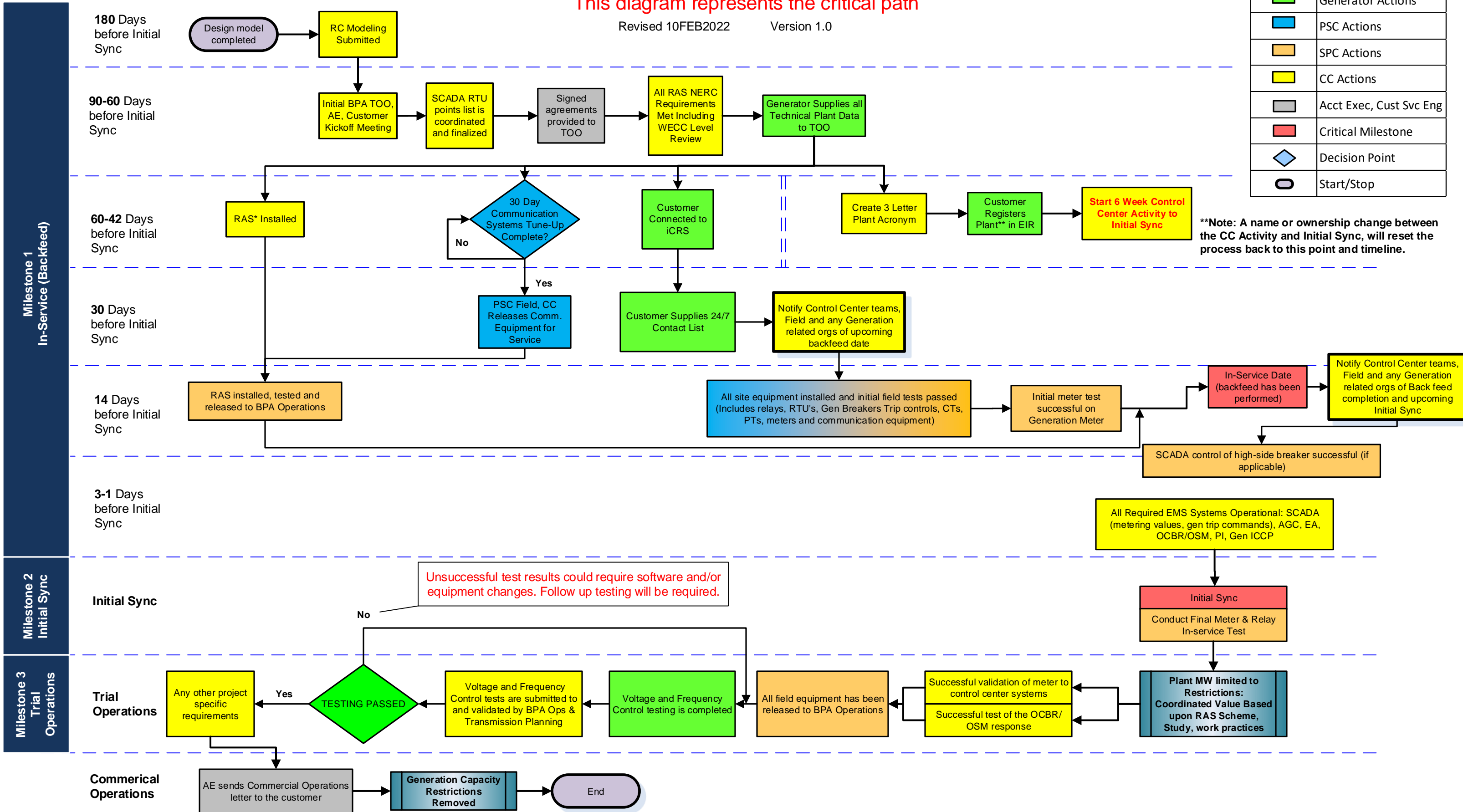
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Generation Commissioning Process Flow for Commercial Operations

This diagram represents the critical path

Revised 10FEB2022 Version 1.0

Legend	
	Generation Restriction
	Generator Actions
	PSC Actions
	SPC Actions
	CC Actions
	Acct Exec, Cust Svc Eng
	Critical Milestone
	Decision Point
	Start/Stop



TERM	DEFINITION
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.
Electric Industry Registry (EIR)	A NAESB (North American Energy Standards Board) product.
Energy Accounting (EA)	Tracks the KWH produced by generation and interchange. The data used in provisioning other BPA systems and external utilities/BA.
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 Re-dispatch System (iCRS)	BPA's integrated Curtailment and Redispatch System (iCRS) hosts tools for state awareness (Generation Advisor) and for managing congestion on most of BPAT'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. Limiting 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 Transmission 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 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	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	DEFINITION
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 (T&E)	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 Control (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.