Generator Interconnection Facility Study Report

for the

0 MW [redacted]

for

[redacted]

in

[redacted]

August 23, 2023

FACILITY STUDY REPORT (FSR)

0 MW [redacted]

Project #695

August 23, 2023

1. General Facility Description

[redacted] (Interconnection Customer) has stated that the proposed project will consist of a 40 MW increase to the existing 325 MW maximum Summergeneration for the existing 365 MW (maximum Winter generation) [redacted] in [redacted], [redacted]. This increase to the maximum Summer generation is not a requested increase in the overall maximum generation of the plant and was therefore studied as a 0 MWac integration at the 230kV bus at [redacted]. The total project output as studied is 365 MW for Summer to align both the Summer and Winter maximum output to 365 MW, with the 40 MW Summer increase being studied as Energy Resource Interconnection Service (ERIS).

Contact Information for Interconnection Customer is as follows:

[redacted]

An amendment to the existing Standard Large Generator Interconnection Agreement (LGIA) under IPC's Open Access Transmission Tariff (OATT) between [redacted] and [redacted] to incorporate the 40 MW Summer increase to the [redacted], specifically Generator Interconnection Project #695 (Project), will be prepared for this project. The LGIA amendment will be a definitive agreement that contains terms and conditions that supersedes this FSR.

Project Queue and Affected Systems:
The Project has applied to connect to Idaho Power's transmission system for an injection of 0 MW at a single Point of Interconnection (POI) at IPC's Langley Gulch Station.

As of the date of this report, there are no projects in the queue ahead of the 0 MW Langley Gulch Expansion Project.

The following Transmission Provider planned system improvements were assumed in-service:

- Boardman to Hemingway 500kV transmission line (2026)
- 50% series capacitance compensation on the Kinport to Midpoint 345kV transmission line (2025)
- Midpoint Substation transformer T502 500:345kV transformer (2025)
- Hemingway to Bowmont 230kV transmission line (2025)

For this and other reasons, the cost estimates included in this FSR are estimates only, and are based on currently known or assumed facts that may not be accurate or materialize and are subject to change.

1.1 Interconnection Point

The Interconnection Facilities are located in IPC's [redacted] region in Township [redacted], Range [redacted] and Section [redacted]. The Point of Interconnection (POI) for the Project will be the node on the [redacted] bus on the ring bus side of switches [redacted] and [redacted] at IPC's [redacted] Station.

1.2 Point of Change of Ownership

The Point of Change of Ownership for the Project is assumed to be the same as the Point of Interconnection.

1.3 Interconnection Customer's Facilities

The Interconnection Customer's Interconnection Facilities are located immediately southeast of and adjacent to IPC's Interconnection Facilities. The Interconnection Customer is not increasing the generating capacity of its existing combined cycle generating facility.

1.4 Other Facilities Provided by Interconnection Customer

1.4.1 Telecommunications

The Interconnection Customer is not responsible for any third-party communication circuits for the IPC Interconnection Facilities. Any additional telecommunication requirements will be the sole responsibility of the Interconnection Customer.

1.4.2 Ground Fault Equipment

No changes or modifications required to existing IPC Interconnection Facilities at IPC's [redacted].

1.4.3 Local Service

The Interconnection Customer is responsible to arrange for local service to their site, as necessary.

1.4.4 Monitoring Information

If the Interconnection Customer requires the ability to monitor information related to the IPC breaker/relay (i.e., Mirrored Bits) in IPC's [redacted], they are required to supply their own communications circuit.

1.4.5 Generator Technical Information & Drawings

Interconnection Customer shall provide draft design prints during Project design development containing technical information, like impedances, and equipment brand and models. After construction, the Interconnection Customer shall submit to IPC all the as-built information, including prints with the latest approved technical information and commissioning test results.

1.5 IPC's Interconnection Facilities

Transmission Provider's Interconnection Facilities are referred to hereafter as "IPC's Interconnection Facilities." No changes or modifications required to existing IPC Interconnection Facilities at IPC's [redacted].

2. Estimated Milestones

These milestones will begin, and the construction schedule referenced below will only be valid, upon receipt of funding from Interconnection Customer or its authorized third party no later than the date set forth below for such payment. IPC will not commit any resources toward project construction that have not been funded by Interconnection Customer. Additionally, failure by Interconnection Customer to make the required payments as set forth in this Study by the date(s) specified below may result in the loss of milestone dates and construction schedules set forth below. In the event that the Interconnection Customer is unable to meet dates as outlined below, Interconnection Customer may request suspension of up to three (3) years pursuant to section 5.16 of the LGIA. Upon suspension of work pursuant to section 5.16 of the LGIA, the applicable construction duration, timelines, and schedules set forth in Appendix D shall be likewise suspended. Estimated milestones, which may be updated and revised for inclusion in the LGIA in light of subsequent developments and conditions, are as follows:

Estimated Date	Responsible Party	Estimated Milestones
TBD	*Interconnection Customer*	*Project Initiation (all three must be complete to initiate project):* • *LGIA Executed* • *IPC receives Notice to Proceed for design, procurement and construction.* • *Construction funding or arrangements acceptable to IPC are made with IPC's Credit Department*
6 months prior to IPC Commissioning	*IPC*	*New generation must be modeled and submitted to the Western Energy Imbalance Market a minimum of 6 months prior to coming online, failure to submit by given lead time will results in project delay.*
TBD	*Interconnection Customer*	*Interconnection Customer testing begins*

Interconnection Customer has requested a Commercial Operation Date (COD) of [redacted]. The above milestone schedule does not align with the requested COD; however, IPC has developed the above milestone dates in good faith considering many factors, including the requested COD, known long-lead times, and the schedule of other in-progress projects. IPC does not warrant or guarantee the foregoing estimated milestone dates, which are estimates only. These milestone dates assume, among other things, that materials can be timely procured, labor resources are available, and that outages to the existing transmission system are available to be scheduled. Additionally, there are several matters, such as permitting issues and the performance of subcontractors that are outside the control of IPC that could delay the estimated Operation Date. For purposes of example only, federal, state, or local permitting, land division approval, identification of Interconnection Facilities location, access to proposed Interconnection Facilities location for survey and geotechnical investigation, coordination of design and construction with the Interconnection Customer, failure of IPC's vendors to timely perform services or deliver goods, and delays in payment from Interconnection Customer, may result in delays of any estimated milestone and the Operation Date of the project. To the extent any of the foregoing are outside of the reasonable control of IPC, they shall be deemed Force Majeure events.

3. Operating Requirements

The Project is required to comply with the applicable Voltage and Current Distortion Limits found in IEEE Standard 519-2014 *IEEE Recommended Practices and requirements for harmonic Control in Electrical Power Systems* or any subsequent standards as they may be updated from time to time.

The Project will be subject to reductions directed by IPC Grid Operations during transmission system contingencies and other reliability events. When these conditions occur, the Project will be subject to Generator Output Limit Control (GOLC) and will have equipment capable of receiving an analog setpoint via DNP 3.0 from IPC for GOLC. Generator Output Limit Control will be accomplished with a setpoint and discrete output control from IPC to the Project indicating maximum output allowed.

Low Voltage Ride Through: The Project must be capable of riding through faults on adjacent sections of the power system without tripping due to low voltage. The interconnection projects must meet or exceed the Low Voltage Ride-Through requirements as set forth in NERC Standard PRC-024.

Frequency Response Requirements: Generator must be capable of providing Primary Frequency Response for both positive and negative frequency deviations from 60Hz (+/- 0.036 Hz) with a droop of up to 5% for Bulk Electric System disturbances. Provided that Generator meets the above Primary Frequency Response requirements, IPC shall not curtail Interconnection Customer when such curtailments are caused by a need to comply with applicable Frequency Responsive reliability standards.

Momentary Cessation Requirements: Momentary cessation should not be used within the voltage and frequency ride-through curves specified in PRC-024. Use of momentary cessation is not considered "ride through" within the "No Trip" zone curves of PRC-024. The use of momentary cessation should be eliminated to the extent possible consistent with NERC's *Reliability Guideline for BPS-Connected Inverter-Based Resource Performance.*

Interconnection Customer will be able to modify power plant facilities on the Interconnection Customer side of the Point of Change of Ownership with no impact upon the operation of the transmission or distribution system whenever the generation facilities are electrically isolated from the system via the [redacted], and a terminal clearance is issued by IPC's Grid Operator.

4. Reactive Power

It is the Project's responsibility to provide reactive power capability to have a power factor operating range of at least 0.95 leading (absorbing) to at least 0.95 lagging (supplying) at the high side of the generator substation over the range of real power output (up to maximum output of the project).

The Project must have equipment capable of receiving an analog setpoint, via DNP 3.0, from IPC for Voltage Control. IPC will issue an operating voltage schedule for the Project prior to the Project's In-Service Date.

5. Upgrades

5.1 Upgrades to Distribution System

No distribution upgrades are required.

5.2 Network Upgrades to Substations

No Substation Network Upgrades are required.

5.3 Network Upgrades to Transmission System

No transmission line Network Upgrades are required.

6. Estimated Costs

The total estimated cost for the project is $0.

There is no modification required to existing interconnection facilities and no identified distribution upgrades or substation and transmission network upgrades.

Note Regarding Transmission Service:

This FSR is a study of a request for an Energy Resource Interconnection Service. This FSR identifies the facilities necessary to connect the Generating Facility to IPC's Transmission System and be eligible to deliver the Generating Facility's output using the existing firm or non-firm capacity of the Transmission System on an "as available" basis. Energy Resource Interconnection Service does not in and of itself convey any right to transmission service or to deliver electricity to any specific customer or Point of Delivery.

Note Regarding LGIA:

This FSR is a study and preliminary evaluation only and does not constitute, or form the basis of, a definitive agreement related to the matters described in this FSR. Unless and until a LGIA is executed by IPC and Interconnection Customer, no party will have any legal rights or obligations, express or implied, related to the subject matter of this FSR.