



Generator Interconnection Facility Study Report

for the

[REDACTED] Project #601

for

[REDACTED]

in

Twin Falls, ID

11/9/2021

FACILITY STUDY REPORT (FSR)

████████████████████
Project #601

11/9/2021

1. General Facility Description

████████████████████ (“Seller”) has stated that the proposed project will consist of 1.5 MW of hydro generation in Twin Falls County, Idaho and connect to the ██████████ system on Idaho Power Company (“IPC”)’s ██████████ feeder. The total project output as studied is 1.5 MW.

Contact Information for Seller is as follows:

████████████████████
████████████████████
████████████████████

A Standard Generator Interconnection Agreement (the “GIA”) under Schedule 72 between Seller and IPC – Delivery (Transmission Provider) for the ██████████ Project, specifically Generator Interconnection Project #601 (“Project”), will be prepared for this project. The GIA will be a definitive agreement that contains terms and conditions that supersedes this FSR.

1.1 Interconnection Point

The Interconnection Facilities are located in IPC’s Southern region in Township ██████████, Range ██████████ and Section ██████████. The Interconnection Point for the Project will be on the Seller’s side of disconnect switch X-# ██████████. A drawing identifying the Interconnection Point is attached as Exhibit 1.

1.2 Point of Change of Ownership

This is the same location as the Interconnection Point.

1.3 Seller’s Interconnection Facilities

The Seller’s Interconnection Facilities are located ██████████ of IPC’s Interconnection Facilities. The Seller will install or reuse existing, as appropriate, generators, disconnect switches, transformers, cable, appropriate grounding measures, and associated auxiliary equipment. Seller will build facilities, as needed, to the Interconnection Point.

1.4 Other Facilities Provided by Seller

1.4.1 Telecommunications

In addition to communication circuits that may be needed by the Seller, the Seller shall provide the following communication circuits for IPC’s use. **It is the Seller’s**

responsibility to provide the following communication circuits for IPC's use. These circuits can be long-lead items and typically require coordination with third party telecommunications providers. The project's in-service date cannot be granted prior to complete circuit acceptance and testing as referenced below.

1.

- a. One POTS (Plain Old Telephone Service meeting the technical requirements of TR-NWT-000335:1993; NCI code 02LS2-2wire, loop start, 600 ohm) dial-up circuit for voice communication at the generation interconnect site. If the circuit becomes unreliable, Seller will be responsible for the circuit repair. For Projects under 3MW, the POTS line must also be capable of supporting reliable sustained data communications at a minimum of 4800 bps with a modem using V32.bis modulation.

Seller shall provide all the required communications circuits between the Interconnection site and IPC's operations points (i.e. IPC FEP location, etc.) as specified by IPC.

RELIABILITY AND DATA SECURITY:

The communication circuits shall be DC powered at the terminus locations and within any telecommunications provider's network, such that they will continue operation during a power outage for a minimum of 4 hours and meet the specified reliability and bandwidth requirements. At distribution connected generation interconnect sites, the Seller is responsible for supplying stable metered AC power during circuit testing and commissioning, and battery backed DC power during operation. At transmission connected generation interconnect sites, IPC can extend its station battery to a circuit marshalling location in a shared access portion of the station yard if needed for Seller telecommunications equipment used only to deliver IPC required circuits, but the Seller is responsible for any required AC local service required by their equipment at their station or in the shared access portion of the station yard. The Seller may choose to coordinate with a third-party communications provider to provide the communications circuits and pay the provider's associated one-time setup and periodic charges, deliver the circuits using their own infrastructure, or a combination thereof. Regardless of circuit transport implementation, in all cases the SCADA circuit must be transported using solely Layer 2 protocols (e.g. serial point-to-point data communication, no routable Layer 3 transport, such as Internet Protocol).

CIRCUIT ACCEPTANCE AND TESTING:

The communication circuits shall be terminated in an approved demarcation box with the cable pairs punched down on a telecom block and labeled accordingly at a location approved by IPC. The communication circuits will need to be installed and tested by the Seller prior to IPC acceptance testing, and operational prior to the Seller being allowed to generate power into IPC's system. A Quasi Random Signal Source (QRSS) test pattern will be used for testing between the DS1 circuit demarcations points, and require 15 consecutive minutes with zero errored seconds and zero severely-errored seconds to pass; a subsequent 15 consecutive minutes (30 minutes total) with three or less total errored seconds and zero severely-errored seconds to pass if previous test failed; a subsequent 15 consecutive minutes (45 minutes total) with nine or less total errored seconds and two or less severely-errored seconds to pass if previous test failed. In addition an "all 1s" stress test with zero errored seconds over a five minute interval to pass, an "all 0s" stress test with zero errored seconds over a thirty second interval to pass, and a "1 in 8" stress test

with zero errored seconds over a five minute interval to pass will also be performed. (Reference ANSI T1.510:1999) In either case, circuits with demonstrated reliability issues during commissioning will be required to demonstrate 24 hours of reliable service by the Seller prior to final acceptance testing by IPC. Note that installation by a third-party communications provider may take several months and these services should be ordered well in advance to avoid delaying the project.

The Seller or their third-party communications provider may need to install communications equipment (i.e. batteries, multiplexers, etc.) near each terminus of the required communications circuits. If this equipment is required, the Seller shall be responsible to install this equipment in locations that are not owned or operated by IPC. If high voltage protection is required by the communications provider for the incoming copper cable, the high voltage protection assembly shall be engineered, supplied, and maintained by the Seller.

OPERATIONAL RESPONSE:

Seller’s failure to maintain and/or restore and repair intermittent or non-operational telecommunications circuits may result in disconnection of Seller’s generation facility/facilities until the circuits successfully complete Idaho Power’s end-to-end testing.

The Seller is responsible for repairing any circuits and contacting any third-party telecom provider as needed. [Note: IPC cannot contact third party telecom providers on behalf of the Seller for circuit outages.] A third-party telecom provider is expected to have the ability to perform some level of remote circuit testing. If the Seller’s third-party telecom provider needs access to IPC facilities, they will contact IPC per contacts in GIA.

The leased services required by IPC are to be kept separate from any communication services required by the Seller. This includes the location where services are handed off from the telecom provider to IPC, also known as the TELCO demarcation. Under no circumstances will any service delivered to IPC’s TELCO demarcation be extended beyond the IPC yard ground grid. If the Seller requires their own leased services, they must be provided through a separate TELCO demarcation, as noted below.

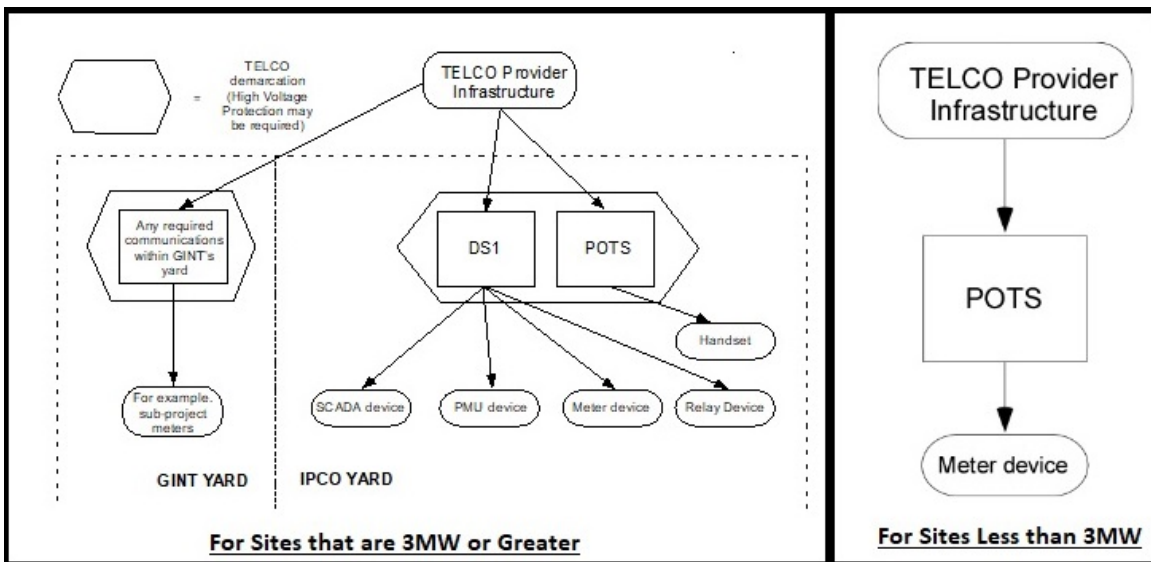


Figure 1: Telecommunication Requirements

1.4.2 Ground Fault Equipment

The Seller will install transformer configurations that are either Grounded-WYE to Grounded-WYE OR Ungrounded-WYE to Grounded-WYE with the Grounded-WYE on the IPC side of the transformer.

The Seller will limit the ground fault current to less than 20 amps as measured at the Interconnection Point.

1.4.3 Generator Output Limit Control

N/A

1.4.4 Local Service

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

1.4.5 Property

The Seller will provide IPC easements for the interconnection facilities, including year-round access. Seller shall coordinate with IPC to incorporate into the Seller's project site plan and easements, enough area for a vehicle to safely access the interconnection site for maintenance. The Seller, at its sole cost and expense, will provide to IPC documents and services as identified below relating to IPC's land rights required for its interconnection facilities:

1.4.5.1 Land Transaction Documents

Land transaction documents ("Land Transaction Documents") in a form approved by IPC that may include, but are not limited to, the following:

- Right of Entry Agreement;
- Interconnection Facility Easement.
- Access Easement;
- Easements for distribution service lines, major distribution power lines, and transmission power lines and related ancillary facilities as determined necessary by IPC at IPC's sole discretion, to support the interconnection facility and Seller's development;
- Completed Applications with respective fees for Release of Easements and/or Crossing Agreements that may be required for the Project;
- Crossing Agreements; and
- Any other Project specific documents deemed necessary by IPC.

1.4.5.2 Project Map/Site Plan

A 90% complete informational map or site plan of the Project Property with locations of all easements to be released, new easements proposed for both Seller and IPC, existing IPC lines to be crossed by Seller's facilities, Seller's lease and easement areas (if any), access roads, and any other features or elements requested to be included by IPC to facilitate review and processing of the project documents.

1.4.5.3 Surveyed Legal Descriptions and Maps

Written legal description and map for each Land Transaction Document, stamped and signed by a licensed surveyor. Each legal description and map is to be submitted to

and approved by IPC's surveyor. See IPC survey requirements in Appendix B, attached hereto and made a part hereof.

1.4.5.4 Title Insurance

Title report and American Land Title Association (A.L.T.A.) extended owners' pro forma policy of title insurance for the amount of the value of the Interconnection Facility Easement or Fee Ownership Parcel and access easement areas. Seller shall provide proof and information to establish the value of the easement or property to be insured. IPC will review the title policy pro forma and will advise of any necessary title mitigation measures to ensure clear and unencumbered title to the Interconnection Facility Easement or Fee Ownership Parcel and access easement areas. Title mitigation measures shall be performed by Seller at Seller's sole cost and expense. Title policy to include endorsements as required by IPC at Seller's sole cost and expense. Seller to provide an electronic copy of all exceptions to title insurance for IPC review. Seller to provide Idaho Power with a final A.L.T.A. extended owners' policy of title insurance.

1.4.5.5 A.L.T.A. Survey

An A.L.T.A. survey of the Project property with all existing IPC easement rights and facilities identified. The A.L.T.A. survey shall include and identify all proposed land transaction areas. If IPC requires a Fee Ownership Parcel for the Interconnection Facility, Seller shall provide an A.L.T.A. survey of the Fee Ownership Parcel to be conveyed to IPC and all Land Transactions. If IPC requires an Easement for the Interconnection Facility, Seller may provide IPC with a copy of Seller's A.L.T.A. survey or with an A.L.T.A. survey in IPC's name but the A.L.T.A. survey shall include the Interconnection Facility Easement Area, as well as all Land Transactions.

1.4.5.6 Phase I Environmental Analysis

A Phase I environmental analysis ("Phase I EA") of Seller's Project property (whether fee-owned, leased, or on an easement premises) for IPC review. The Phase I EA shall provide a map indicating the location of the IPC Interconnection Facilities in relation to any identified areas of concern. If IPC requires a Fee Ownership Parcel for the Interconnection Facility, Seller shall provide a Phase 1 EA in IPC's name with warranties for IPC. If IPC requires an Easement for the Interconnection Facility, Seller shall provide IPC with a copy of Seller's Phase 1 EA, but which shall include and reference the Interconnection Facility Easement Area.

1.4.5.7 Land Use Authorizations/Permits

The Seller shall secure all necessary local jurisdiction, state, and/or federal land use authorizations and permits for the IPC Interconnection Facilities, access road, new transmission and distribution lines, buildings, and all facilities in support of Seller's Project, as required by local, state or federal entities. A copy of each authorization pertaining to IPC facilities shall be provided to IPC.

1.4.5.8 Land Division

Should a division of land be necessary to create a new Fee Ownership Parcel, Seller shall submit application to the proper local jurisdiction and complete all requirements to finalize the creation of a new Fee Ownership Parcel in IPC's name. Seller shall provide final approval documentation to IPC.

Seller is advised that IPC review and approval of the Land Transaction Documents may require six (6) to nine (9) months. Seller is advised to provide all required Land Transaction Documents at earliest possible time. Refer to Appendix C for a quick reference guide to Idaho Power Corporate Real Estate Fee Acquisition and/or Easement Parcel requirements. Upon IPC approval of all Land Transaction Documents, IPC will supply to the Seller final form documents for signature by the landowner of record. The Seller shall return original signed and recorded Land Transaction Documents to IPC. All recording and mailing fees shall be paid by Seller. IPC shall provide to Seller electronic copies of all fully executed and recorded Land Transaction documents.

1.4.6 Site Work

N/A

1.4.7 Monitoring Information

If the Seller requires the ability to monitor information related to the IPC recloser in the generator interconnection package they are required to supply their own communications circuit to the control box located on [REDACTED] of IPC's Interconnection Facilities.

1.4.8 Generator Technical Information & Drawings

Seller shall provide draft design prints during FSR development containing technical information, like impedances, and equipment brand and models. After construction, the Seller 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

IPC will install a 4-pole standard generation interconnection package that will connect to distribution feeder [REDACTED]. Legacy interconnection facilities will be removed from the site at Idaho Power's expense.

The new interconnection package will include four distribution poles to mount a local service transformer, solid blade disconnects, primary metering package, recloser, relays, fuses and riser necessary for the package. [REDACTED] of the new package will be installed at the same location as existing Interconnection Point to potentially eliminate the need for extension of existing customer cable. The interconnection will be controlled by a [REDACTED] line protection relay. The relay will be located in [REDACTED] and will also contain a test switch (TS4), SLSS, dialup modem, isolation interface, power supply, DC converter, control switch and surge protector.

Concrete barriers may be necessary to protect this equipment from local area traffic.

A 2" conduit will be installed alongside the underground primary to facilitate information exchange to the Seller about the recloser. (The Seller is responsible for providing and installing the appropriate cable.)

2. Estimated Milestones

These milestones will begin, and the construction schedule referenced below will only be valid, upon receipt of funding from Seller 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 Seller. Additionally, failure by Seller 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 Seller is unable to meet dates as outlined below, Seller may request an extension of the Operation Date of up to three (3) years. Seller's request will be evaluated by IPC and allowed only if IPC determines, in its sole discretion, that the extension will not negatively impact other projects in IPC's Generator Interconnection Queue. Estimated milestones, which will be updated and revised for inclusion in the GIA in light of subsequent developments and conditions, are as follows:

Estimated Date	Responsible Party	Estimated Milestones
	<i>Seller</i>	<i>IPC receives Notice to Proceed and construction funding or arrangements acceptable to IPC are made with IPC's Credit Department</i>
4 months after construction funds received	<i>IPC</i>	<i>IPC Engineering and Design Complete</i>
7 months after construction funds received	<i>IPC</i>	<i>IPC Long Lead Material Procured/Received</i>
7 months after construction funds received	<i>Seller</i>	<i>Easements and permits procured for IPC site, construction will not begin until easements and permits are in place.</i> <i>Detailed in Appendix C attached.</i>
6 months prior to IPC Commissioning	<i>IPC</i>	<i>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.</i>
9 months after construction funds received	<i>Seller</i>	<i>Telecommunication circuits identified in Section 1.4.1 are operational and provided to the IPC site</i>
10 months after construction funds received	<i>IPC</i>	<i>IPC Construction Complete</i>
12 months after construction funds received	<i>IPC</i>	<i>IPC Commissioning Complete, commissioning will not take place until Telecommunication circuits are operational</i>
5 days after switching request made to IPC	<i>Seller</i>	<i>Switch at the Interconnection Point can be closed</i>

Dispatch		
TBD	<i>IPC</i>	<i>Notification from IPC's Energy Contracting Coordinator confirming First Energy of Non-Firm Output</i>
TBD	<i>Seller</i>	<i>Seller testing begins</i>
TBD	<i>IPC</i>	<i>Notification from IPC's Energy Contracting Coordinator confirming Operation Date (pending all requirements are met) of Firm Network Resource Output</i>

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 Seller, failure of IPC's vendors to timely perform services or deliver goods, and delays in payment from Seller, 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

3.1 Voltage and Current Distortion Limits

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.

3.2 Voltage Fluctuation

The Project is required to comply with the applicable voltage fluctuation limits found in IEEE Standard 1453-2004 *IEEE Recommended Practice for Measurement and Limits of Voltage Fluctuations and Associated Light Flicker on AC Power Systems* or any subsequent standards as they may be updated from time to time.

3.3 Voltage Flicker

Voltage flicker at startup and during operation will be limited to less than 5% as measured at the Interconnection Point. The allowable voltage flicker limit is further reduced during operation due to multiple voltage fluctuations per hour or minute, per Idaho Power's T&D Advisory Information Manual.

3.4 Voltage Control

The Project will be required to control voltage in accordance with a voltage schedule as provided by Idaho Power Grid Operations.

3.5 Low Voltage Ride Through

The Project must be capable of riding through faults on adjacent section of the power system without tripping due to low voltage. It has been determined, through study, that the Project must be capable of remaining interconnected for any single phase voltage as low as 0.7 PU for 30 cycles, and for all three phase voltages as low as 0.8 PU for 30 cycles.

3.6 Frequency Response Requirements

Generator must be capable of providing Fast Frequency Response for both positive and negative frequency deviations from 60Hz (+/- 0.036 Hz) for Bulk Electric System disturbances. The required frequency response will be linear for a deviation of 0 to +/- 0.1 Hz, a response of 0% to 3% of generator capacity, with a maximum required response of 3% of generator's full capacity for as long as the generator is able to provide support or the frequency deviation is reduced to within stated limits, whichever occurs first. Provided that Generator meets the above Fast Frequency Response requirements, Company shall not curtail Seller when such curtailments are caused by a need to comply with applicable Frequency Responsive reliability standards.

3.7 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*.

3.8 Modifications to Interconnection Customer's Facilities

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

4. Reactive Power

The Project shall be capable of injecting reactive power (over-excited) equal to 796.2 kVAr and absorbing reactive power (under-excited) equal to 452.4 kVAr at all active power output between 20% and 100% of nameplate active power rating as defined in IEEE 1547-2018 Category A reactive power capability and shown in Figure 2.

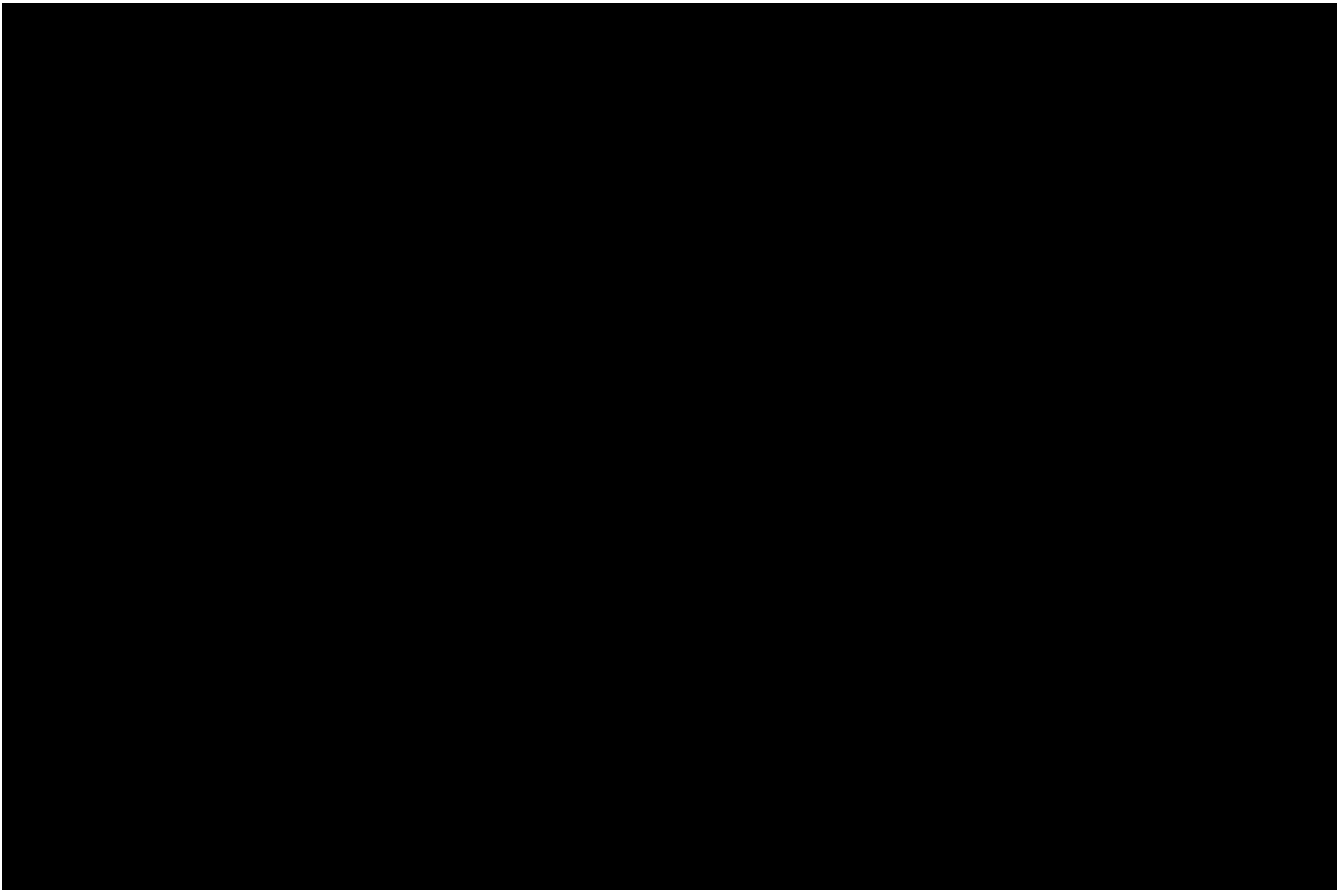


Figure 2: Operating Requirements (IEEE 1547-2018)

IPC will determine the reactive power required to be supplied by IPC to the Seller, based upon information provided by the Seller. IPC will specify the equipment required on IPC's system to meet the Facility's reactive power requirements. These specifications will include but not be limited to equipment specifications, equipment location, IPC-provided equipment, Seller provided equipment, and all costs associated with the equipment, design and installation of IPC-provided equipment. The equipment specifications and requirements will become an integral part of the GIA. IPC-owned equipment will be maintained by IPC, with total cost of purchase, installation, operation, and maintenance, including administrative cost to be reimbursed to IPC by the Seller. Payment of these costs will be in accordance with Schedule 72 and the total reactive power cost will be included in the calculation of the Monthly Operation and Maintenance Charges specified in Schedule 72.

5. Upgrades

5.1 Upgrades to the Distribution System

Program recloser [REDACTED] for dead line check capability.

5.2 Upgrades to Substations

No substation upgrades required.

5.3 Upgrades to the Transmission System

No transmission system upgrades required.

6. Estimated Costs

The following good faith estimates are provided in 2021 dollars and are based on a number of assumptions and conditions. IPC does not warrant or guarantee the estimated costs in the table below, which are estimates only and are subject to change. Seller will be responsible for all actual costs incurred in connection with the work to be performed by IPC and its agents, under the terms and subject to the conditions included in any GIA executed by IPC and Seller.

The estimated cost below is required to be paid in full by the Seller, or other arrangements acceptable to IPC are made with IPC's Credit Department, prior to IPC commencing construction on the project.

Estimated Cost:

Description	Ownership	Cost Estimate
<i>IPC Interconnection Facilities:</i>		
Standard [REDACTED] 4-pole interconnection package	IPC	\$243,000
<i>Upgrades to IPC Distribution:</i>		
Program line recloser for dead line check	IPC	\$5,000
<i>GRAND TOTAL</i>	<i>\$248,000</i>	

Note Regarding Transmission Service:

This FSR is a study of a request for Network Resource Interconnection Service. This FSR identifies the facilities necessary to provide such service. Network Resource Interconnection Service in and of itself does not convey any right to transmission service or to deliver electricity to any specific customer or Point of Delivery.

Note Regarding GIA:

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 GIA is executed by IPC and Seller, no party will have any legal rights or obligations, expressed or implied, related to the subject matter of this FSR.

Appendix A

Generation Interconnection Control Requirements

A.1 Generator Output Limit Control (GOLC) *not required*

Appendix B

IPC Survey Requirements

- Is the Grantor's Deed Instrument No. noted in the Exhibit 'A' Legal Description or Exhibit 'B' Survey Map?
- Are the Section, Township, Range, and County information clearly stated on the Exhibits?
- Is the Basis of Bearings between found monuments called out and noted on the Exhibits?
- Are the Point of Commencement, Point of Beginning and or Point of Terminus shown on the Exhibits?
- Do all lines have a bearing and distance associated with them on the Exhibits?
- All lines need bounding calls to Grantor's ownership lines, Rights-of-Way, etc. in Exhibit A.
- Are the Subdivision names, lot & block, and streets labeled on the Exhibit B?
- Are any existing Utility Easements adjoining this Easement called out and shown on the Exhibits?
- Is the map scale noted and is there a North arrow shown on the Exhibit B?
- On a strip easement is the width given and does it call to form a closed figure in the Exhibit A?
- Does the Parcel description close?
- Are the reference surveys of record or CP&Fs used to prepare the easement called out and shown on the Exhibits?
- A Professional Land Surveyor or Engineer in responsible charge must stamp, sign and date the exhibits for submission.
- A copy of the current Deed of Record for the Grantor is needed for submission.

Appendix C

Idaho Power Company – Corporate Real Estate Department Easement Parcel Acquisition Requirements for Developers

Corporate Real Estate process will require the following steps and/or documents.

Process time frame: 6 mos. to 1 year depending on project specifics

1. **Right of Entry Agreement.** A Right-of-Entry Agreement will allow Idaho Power to conduct necessary due diligence studies and review of the property and substation lands to determine feasibility for development. This document is required to be signed by the underlying property owner prior to Idaho Power entry onto the owner's lands for testing, surveying, etc. and will allow the preliminary stages of project development to commence pending completion of the transfer of substation lands to Idaho Power.
2. **Purchase and Sale Agreement – Substation Easement – Access Easement – Power Line Easements.** Idaho Power requires the following easements from the underlying property owner for our interconnection facilities: (1) substation easement, (2) access easement (for access to the substation) and (3) transmission and distribution line easements. Corporate Real Estate will enter into a purchase and sale agreement with the underlying property owner to provide for the grant of the easements to Idaho Power.
3. **Title Commitment.** Idaho Power requires that Developer ensure the substation, access, and power line easement lands are free from any encumbrances to title. To meet this requirement, a Title Commitment with A.L.T.A. extended coverage owner's policy in Idaho Power's name is required. All exceptions to title insurance need to be provided with the Title Commitment for Idaho Power review. Upon receipt, Corporate Real Estate will review all exceptions and will advise of any necessary follow-up actions. Importantly, Idaho Power requires a form of ownership that is free and clear from all encumbrances.
4. **Survey.** An A.L.T.A. survey for the substation, access and power line easements is required. The A.L.T.A. survey will be reviewed by Idaho Power's surveyor who will advise of any necessary revisions.
5. **Legal Descriptions.** Written legal descriptions, stamped and signed by a surveyor licensed in the state of Idaho, are required for the substation easement, access easement, and distribution/transmission line easements. The written legal descriptions will be reviewed by Idaho Power's surveyor who will advise of any necessary revisions.
6. **Phase I Study.** Developer shall provide Idaho Power with a Phase I environmental site assessment study for the substation, access and power line easement lands, which (1) is prepared by an independent environmental site assessment company, in Idaho Power's name, (2) recognizes that Idaho Power holds an interest in the easement areas and is a User of the Phase I report, and (3) provides appropriate environmental warranties to Idaho Power for the lands over which the substation, access and power line easements will be located. The Phase I study will be reviewed by Idaho Power and Idaho Power will advise if a Phase II environmental site assessment or other actions are required based on the results of the Phase I study.

7. **Public Lands Permits/Authorizations (if needed)**. Should any public lands, rights-of-way, etc. be affected by Idaho Power's use of or access to the interconnection facilities, Developer shall be responsible to secure any necessary agency authorizations or permits in Idaho Power's name, at Developer's sole cost and expense. Developer shall be responsible to ensure all conditions of approval are satisfied, fees are paid, etc. for the agency permits.
8. **Land Use Permits/Authorizations**. Developer shall be responsible to secure any necessary land use entitlements or authorizations from the local jurisdiction, local agencies, state of Idaho, or Federal or other agencies for Idaho Power's construction, operation and maintenance of the interconnection facilities (example: Conditional Use Permit from city or county). Any such authorizations shall be secured in Idaho Power's name and for the benefit of Idaho Power. Idaho Power will require that the Developer satisfy all conditions of approval and requirements for any such entitlement or authorization.
9. **Costs**. Any costs pertaining to the above items shall be at the Developer's sole cost and expense.
10. **Miscellaneous Documents**. Other Miscellaneous Documents as necessary for the specific project, and which may include Memorandums of Understanding or Agreement, etc.

Appendix D

Idaho Power Guidelines for Alternative Telecom Service Strategies for Existing and New Cogeneration and Small Power Production Generator Interconnection Agreements

This document, supporting the GIA, serves as a guideline for the review by Idaho Power of strategies for proposed telecom circuit services, as alternatives to established common carrier solutions, to meet the requirements of POTS, Digital Data Service (DDS), and High Capacity Digital Service (DS1) for existing and new Generator Interconnection Agreements (GIA). The goal is for alternative circuit solution providers to demonstrate comprehensive aspects of solutions to meet the contractual requirements of GIA with the Cogeneration and Small Power Production (CSPP) project owner, without involving engineering analysis by Idaho Power, nor implying Idaho Power responsibility for ensuring acceptable operation of the alternative circuit solutions.

As background, CenturyLink is an incumbent local exchange carrier (ILEC) with established isolated circuit entrance facilities into the Boise Bench Station, which houses the Idaho Power DDS and DS1 termination equipment required for both co-generation SCADA and Phasor Measurement Unit (PMU) circuits. Alternative services may require establishment of additional approved competitive local exchange carrier (CLEC) with isolated entrance facilities into the Boise Bench Station, or creation of a composite service with transition to CenturyLink, for terminus for all DDS and DS1 circuits.

Additionally, CSPP site telecom services are typically provided by CenturyLink or other common carriers who serve the geographic area. CSPP project owners, or their third-party contractors, may elect to design, install, operate, and maintain a composite solution by interposing intermediate telecom services with handoffs to those common carriers. The overall composite system design, circuit performance, reliability, and operational availability should remain in alignment with common carrier telecom standards and GIA requirements.

In the case where an alternative or composite third-party solution is desired, a comprehensive proposal package should be supplied to Idaho Power for strategy review. To facilitate a timely review of the proposal, label each submitted article with the site location and corresponding topic numbers listed below. Incomplete packages will not be reviewed. By conducting this review and providing any feedback, Idaho Power is in no way providing engineering design services and shall incur no responsibility or liability for the proper implementation, acceptable operation, or compliance with the GIA, which is the sole responsibility of the CSPP project owners.

1. Analysis to demonstrate composite circuit operational availability per CenturyLink/Qwest TechPub 77312 (for DDS) or CenturyLink/Qwest TechPubs 77200 and 77375 (for DS1) with the introduction of any third-party intermediary equipment.
2. Documentation which demonstrates composite DDS solution meeting Bellcore/Telcordia TR_NWT_000341 or composite DS1 solution meeting GR-54-CORE:1995 and TR-NWT-000341:1993 for NCI code 04DU9.1SN.
3. Documentation which demonstrates composite POTS solution meeting Bellcore/Telcordia TR_NWT_000335.
4. Implementation details and analysis of composite equipment isolation solution to withstand site ground potential rise due to electrical faults, per IEEE-367-1996.
5. Implementation details and analysis of composite solution power supply equipment to meet required duration of circuit operation in the event of loss of local AC power.

6. Third-party composite telecom circuit test plan. The third-party test plan should test to, and provide test results of, Idaho Power circuit demarcations in a manner to maximize the successful subsequent acceptance tests by Idaho Power for the following circuit types:
 - **POTS Circuit:** Successful serial data transfer (BERT testing using a 2047 test pattern) of tester-supplied modem connected at the demark, in a looped back configuration at 4800bps using V.32bis modulation, requiring 15 consecutive minutes of error free operation. Test performed twice a day on two successive days.
 - **DDS Circuit:** Successful DDS circuit testing using DDS1, DDS2, DDS3, DDS4, and DDS6 test patterns for 15 minutes each, followed by 15 consecutive minutes of error free serial data BERT testing (using a 2047 test pattern at 19.2kbps) over our terminating CSU/DSU on each DDS circuit. Idaho Power to facilitate access to DDS demark at Boise Bench Station for head-head DDS circuit testing and provide CSU/DSU loopback for serial BERT data testing.
 - **DS1 Circuit:** Successful DS1 testing using a Quasi Random Signal Source (QRSS) test pattern between the DS1 circuit demarcations points, requiring 15 consecutive minutes with zero errored seconds and zero severely-errored seconds to pass; a subsequent 15 consecutive minutes (30 minutes total) with three or less total errored seconds and zero severely-errored seconds to pass if previous test failed; a subsequent 15 consecutive minutes (45 minutes total) with nine or less total errored seconds and two or less severely-errored seconds to pass if previous test failed. In addition an “all 1s” stress test with zero errored seconds over a five minute interval to pass, an “all 0s” stress test with zero errored seconds over a thirty second interval to pass, and a “1 in 8” stress test with zero errored seconds over a five minute interval to pass will also be performed. (Reference ANSI T1.510:1999) In either case, circuits with demonstrated reliability issues during commissioning will be required to demonstrate 24 hours of reliable service by the Interconnection Customer prior to final acceptance testing by IPC. Idaho Power to facilitate access to DDS demark at Boise Bench Station for head-head DS1 circuit testing and provide physical loopback for serial BERT data testing.
7. Proposed composite circuit outage response plan and contact list for all parties involved in providing telecom circuits to the site (Idaho Power Regional Technicians, CenturyLink or other CLEC with entrance facilities at Boise Bench Station, CenturyLink or other CLEC with telecom facilities at third-party circuit handoff, third party circuit provider, co-generation project owner).

Note: Idaho Power technicians can only be dispatched by the Idaho Power dispatch center once the telecom circuit owner has isolated any circuit issues to Idaho Power owned equipment. An acceptable outage response plan includes the burden of troubleshooting co-generation circuit failures to the proper side of the co-generation /Idaho Power demark falls on the co-generator who provides the circuits, prior to involving Idaho Power personnel.