Facilities Study Report

[redacted] **#752**
4.2 MW Solar
Malheur County, OR

[redacted]

June 17, 2025

Table of Contents

Table of Contents i
List of Tables ii
List of Figures ii
List of Appendices ii
1. Study Overview 1
1.1 Introduction 1
1.2 Study Assumptions 1
2. Interconnection Facilities and Upgrades 2
2.1 Interconnection Equipment 2
2.2 Interconnection Facilities 2
2.3 System Upgrades 4
2.4 Estimated Costs 4
3. Contingent Facilities and Affected Systems 6
3.1 Generation Interconnection Queue 6
3.2 Contingent Facilities and Planned System Improvements 6
3.3 Affected Systems 6
4. Estimated Milestones 7
4.1 Milestones Overview 7
4.2 Estimated Milestones Detail 7
5. Interconnection Details 10
5.1 Small Generator Facility 10
5.2 Other Facilities Provided by Interconnection Customer 10
5.3 Operating Requirements 17
5.4 Reactive Power 19
5.5 Generation Interconnection Supervisory Data Requirements 20
Revision History 31

List of Tables

Table 1
Estimated cost of Interconnection Facilities and System Upgrades..... 5

Table 2
Interconnection Customer proposed schedule dates 7

Table 3
Estimated Milestones 8

Table 4
Voltage Reactive Power Settings for the Project..... 18

Table 5
Distribution-interconnected solar Generation Interconnection Supervisory Data Table 22

List of Figures

Figure 1
Telecommunications diagram..... 14

Figure 2
Voltage-Reactive Power Settings (IEEE 1547-2018). 18

Figure 3
Reactive Power Requirements (IEEE 1547-2018). 19

List of Appendices

Appendix A
IPC Survey Requirements..... 25

Appendix B
IPC Parcel Acquisition Requirements for Interconnection Customers..... 26

Appendix C
Alternative Telecommunications Service 28

1. Study Overview

1.1 Introduction

[redacted] (Interconnection Customer) contracted with Idaho Power Company (IPC) to perform a Facilities Study (FS) for interconnection of the proposed 4.2 MW [redacted] #752 (Project) to IPC's 34.5kV system via IPC's [redacted] distribution circuit. Interconnection Customer will operate this generator as a Qualifying Facility as defined by PURPA. The total project output as studied is 4.2 MW.

This Facilities Study Report (FSR) documents the basis for and results of the FS for the Project. The FSR provides a non-binding estimate of the cost of—and schedule for—equipment, engineering, procurement, and construction work required to implement the conclusions of the most recent study to connect the Project physically and electrically to the distribution system. This report satisfies the FS requirements of the Public Utility Commission of Oregon (OPUC) Small Generator Interconnection Rules in OAR 860, Division 82.

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 Tier 4 Interconnection Agreement as defined in the OPUC Small Generator Interconnection Rules (OR PURPA GIA) 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. An OR PURPA GIA between Interconnection Customer and IPC for the Project will be prepared following finalization of this FSR and approval of the interconnection application. The OR PURPA GIA will be a definitive agreement that contains terms and conditions that supersede this FSR.

1.2 Study Assumptions

This report is based on information available at the time of study. Interconnection Customer is responsible to check IPC's OASIS site and website regularly for Generation Interconnection and Transmission System updates:

- OASIS (https://www.oasis.oati.com/ipco/)
- Planning and Electrical Projects (https://www.idahopower.com/energy-environment/energy/planning-and-electrical-projects/)

2. Interconnection Facilities and Upgrades

2.1 Interconnection Equipment

Required Interconnection Equipment

Interconnection Equipment is defined as a group of components or an integrated system provided by an Interconnection Customer or applicant to connect a Small Generator Facility to a public utility's transmission or distribution system. IPC considers all facilities and equipment located between the Small Generator Facility and the Point of Change of Ownership (POCO), including any modification, addition, or upgrades to such facilities and equipment, to be Interconnection Equipment. Interconnection Customer is responsible for funding and constructing Interconnection Equipment, including the gen-tie line and facilities to the POCO.

Interconnection Customer's Interconnection Equipment is located in IPC's Western region and is approximately [redacted] away from IPC's Interconnection Facilities. Interconnection Customer will install disconnect switches, distribution collector system, step-up transformers, controllers, appropriate grounding measures, and associated auxiliary equipment.

The main step-up transformer is a [redacted] transformer. The proposed [redacted] transformer specified in the Interconnection Request should provide an adequate ground return path for line protection/relaying.

Point of Change of Ownership

The POCO for the Project will be on Interconnection Customer's side of disconnect switch [redacted] on [redacted] of IPC's Interconnection Facilities described in Section 2.2 of this FSR. A drawing identifying the POCO is attached as Exhibit 1. If Interconnection Customer is going underground to the POCO, IPC will include a pole riser for Interconnection Customer to install cables. If Interconnection Customer is going overhead to the POCO, it will be at a tension not to exceed the design tension specified by IPC.

2.2 Interconnection Facilities

Interconnection Facilities are defined as the facilities and equipment required by a public utility to accommodate the interconnection of a Small Generator Facility to the public utility's transmission or distribution system and used exclusively for that interconnection. Costs for IPC's Interconnection Facilities are the sole responsibility of Interconnection Customer and are not reimbursable.

Point of Interconnection

The Project's POI will be at Interconnection Customer's requested POI of [redacted]. The preliminary configuration for the POI interconnects the Project on IPC's side of [redacted] on [redacted]. A drawing detailing the configuration is attached as Exhibit 1. This configuration will be finalized during construction, and the final configuration will be captured in an OR PURPA GIA amendment, if necessary.

Metering

All metering for the Project will be installed, configured, and maintained in accordance with IPC's publicly posted Facility Interconnection Requirements for Transmission Systems, as may be updated from time to time.

IPC's Interconnection Facilities

IPC will install a standard generation interconnection package that will connect to IPC's [redacted] distribution circuit. The following Interconnection Facilities are required for this Project:

- Install a new 34.5kV interconnection package to include:
  - Four (4) distribution poles spaced 25' apart
  - [redacted] recloser
  - [redacted] local service transformer
  - [redacted] primary meter
  - [redacted] protection and communication box with remote connectivity equipment
  - Three-phase potential transformers (PT)
  - [redacted] disconnect switches
  - [redacted] single-phase PT on Project side of the IPC recloser
  - [redacted] single-phase current transformers (CT)
- Install [redacted] slack span of 34.5kV overhead circuit to connect four-pole interconnection to [redacted] (approximately [redacted] of conductor)
- Install concrete barriers as necessary to protect equipment from local area traffic

IPC will install a 2-inch conduit alongside the underground primary to facilitate information exchange to Interconnection Customer from the recloser; this conduit will be stubbed out 10 feet from Idaho Power's [redacted]. Interconnection Customer is responsible for providing and installing the appropriate cable.

Interconnection Facilities Standards

Note that the site map provided by Interconnection Customer includes plans that do not meet IPC standards for IPC's Interconnection Facilities (e.g., the site map has pole spacing at [redacted] apart, whereas IPC's standard is 25' between poles). Additionally, IPC shall own poles 1, 2, 3, and 4 (P1–P4) identified on the site map with a 34.5kV overhead line.

As outlined on the attached Exhibit, these poles will be used as follows:

1. Local Service Pole
2. Metering Pole
3. Recloser Pole
4. Disconnect/Switch Pole

2.3 System Upgrades

System Upgrades are defined as additions or modifications to a public utility's transmission or distribution system or to an affected system that is required to accommodate the interconnection of a Small Generator Facility. Actual costs for System Upgrades are the sole responsibility of Interconnection Customer and are not reimbursable. The following System Upgrades are required for this Project:

- Install [redacted] single-phase 35kV PT and wiring for deadline check at [redacted] Substation
- Upgrade regulator controller to [redacted] Regulator Controller at [redacted] Substation
- Upgrade [redacted] AMI Transformer at [redacted] Substation
- Replace [redacted] line recloser with a [redacted] Recloser with comms, install single phase PT and bypass switches on distribution feeder [redacted]
- Install new communications and SCADA equipment at IPC's [redacted] Substation

2.4 Estimated Costs

The following good faith estimates are provided in 2025 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. Interconnection Customer 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 OR PURPA GIA executed by IPC and Interconnection Customer. Costs for any work being performed by Interconnection Customer and/or Affected Systems are not included.

Full funding of the estimated costs identified below (or as updated in the OR PURPA GIA) must be received or other arrangements acceptable to IPC must be made with IPC's Credit Department prior to any work commencing on the Interconnection Facilities and/or identified upgrades.

Table 1
Estimated cost of Interconnection Facilities and System Upgrades

Description	Ownership	Cost Estimate
IPC Interconnection Facilities:		
Facilities between the POCO and POI as described in Section 2.2	IPC	$244,065
Contingency 20%		$48,813
Overheads 10%		$29,288
Total		**$322,166**
System Upgrades:		
Upgrades to System as described in Section 2.3	IPC	$487,930
Contingency 20%		$97,586
Overheads 10%		$58,552
Total		**$644,068**
	GRAND TOTAL	**$966,234**

3. Contingent Facilities and Affected Systems

3.1 Generation Interconnection Queue

Interconnection Customer has applied to interconnect the Project to IPC's distribution system for an injection of 4.2 MW at a single POI on IPC's [redacted] distribution circuit.

If a senior-queued Interconnection Request that is responsible for constructing System Upgrades should withdraw from the queue or otherwise be terminated, junior-queued Interconnection Requests in the electrically relevant area may be restudied and assigned additional System Upgrades identified as necessary to facilitate their interconnection.

No senior-queued Interconnection Requests were identified for the Project.

3.2 Contingent Facilities and Planned System Improvements

Contingent Facilities and IPC's planned system improvements are those unbuilt Interconnection Facilities and System Upgrades upon which the Interconnection Request's costs, timing, and study findings are dependent, and if delayed or not built, could cause a need for restudies of the Interconnection Request or a reassessment of the Interconnection Facilities and/or System Upgrades and/or costs and timing.

No Contingent Facilities or IPC planned system improvements were identified for the Project.

3.3 Affected Systems

An Affected System is a transmission or distribution system, not owned or operated by the interconnecting public utility, which may experience an adverse system impact from the interconnection of a Small Generator Facility.

IPC has not identified an Affected System for this Project. If an Affected System is later identified, IPC will notify both Interconnection Customer and Affected System, and an Affected System study may be required.

4. Estimated Milestones

4.1 Milestones Overview

The milestone dates in this section assume, among other things, that materials can be timely procured, labor resources are available, and that outages to the existing distribution 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 Commercial Operation Date (COD). 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 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 COD 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. For these and other reasons, IPC does not warrant or guarantee the estimated milestone dates, which are estimates only.

Interconnection Customer proposed the following schedule dates in the Facilities Study Agreement:

Table 2
Interconnection Customer proposed schedule dates

Milestone	Proposed Date
Begin Construction	TBD
In-Service Date (back feed power available)	TBD
Generation Testing	TBD
Commercial Operation	TBD

4.2 Estimated Milestones Detail

Interconnection Customer requested a COD of March 1, 2025. IPC developed the milestone dates in good faith considering many factors, including the requested COD, known long-lead times, and the schedule of other in-progress projects. The estimated milestone schedule captured in the following table does not align with the requested COD.

These milestones will begin, and the milestone 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 in the ultimate OR PURPA GIA 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 the ultimate OR PURPA GIA by specified date(s) may result in the loss of milestone dates and construction schedules set forth below.

Table 3
Estimated Milestones

Estimated Date	Responsible Party	Milestone
Within 30 Calendar Days following receipt of Draft FSR	Interconnection Customer	Agree to pay for interconnection facilities and system upgrades
15 Business Days following completion of previous milestone	IPC	Approve Interconnection Customer's application and provide Final FSR
5 Business Days following completion of previous milestone	IPC	Tender executable OR PURPA GIA to Interconnection Customer
15 Business Days following receipt of executable OR PURPA GIA	Interconnection Customer	**Project Initiation** (all three must be complete to initiate Project): • Executed OR PURPA GIA • IPC receives Notice to Proceed for design, procurement, and construction • Construction funding or arrangements acceptable to IPC are made with IPC's Credit Department
12 months following Project Initiation	IPC	Engineering and Design complete
12 months following Project Initiation	IPC	Long Lead Material procured/received
12 months following Project Initiation	Interconnection Customer	Easements and permits procured for IPC site; construction will not begin until easements and permits are in place Detailed in Appendix C attached
10 months prior to COD	Interconnection Customer	Provide updated EMT models to complete modeling in accordance with IPC's OATT Attachment O
8 months prior to IPC Commissioning	IPC	Network modeling submission Failure to submit by given lead time will result in Project delay
180 Calendar Days prior to Trial Operation	Interconnection Customer	Provide a completed copy of the Small Generator Facility data requirements contained in Appendix 1 of the SGIP
180 Calendar Days prior to Initial Synchronization	Interconnection Customer	Provide initial specifications for Interconnection Equipment
90 Calendar Days prior to Initial Synchronization	Interconnection Customer	Provide final specifications for Interconnection Equipment
18 months following Project Initiation	IPC	Construction of IPC's Interconnection Facilities and System Upgrades Complete
18 months following Project Initiation	Interconnection Customer	Required telecommunication circuits operational and provided to IPC site
20 months following Project Initiation	IPC	Commissioning of IPC's Interconnection Facilities and System Upgrades Complete Back feed power is available

Estimated Date	Responsible Party	Milestone
5 Business Days after switching request made to IPC Dispatch	Interconnection Customer	**In-Service Date** Switch at the POI can be closed to obtain back feed power
20 Business Days prior to In-Service Date	Interconnection Customer	Provide notice to IPC of Initial Synchronization Date
Within 10 Business Days prior to Initial Synchronization Date	Interconnection Customer & IPC	Conduct successful witness test[1]
TBD	Interconnection Customer	**Initial Synchronization Date** Interconnection Customer Trial Operation begins; test energy can be generated only if the IC has arranged for the delivery of such energy
30 Calendar Days prior to COD	Interconnection Customer	Notify IPC of COD
Prior to COD	Interconnection Customer	Pass Generating Facility Functional Testing
10 BD prior to COD	Interconnection Customer	Provide Certificate of Insurance
Prior to COD	Interconnection Customer	Provide as-built or as-tested performance data that differs from the initial Small Generator Facility data requirements contained in Appendix 1 of the SGIP Provide as-built drawings, information, and documents for Interconnection Equipment
Prior to COD	Interconnection Customer & IPC	Execute a Certificate of Completion
TBD	Interconnection Customer	**COD**

[1] IPC has the option to conduct a witness test at a mutually agreeable time within 10 Business Days of the scheduled commissioning (Initial Synchronization Date). If IPC elects to conduct a witness test, IPC will provide written notice of the intention to do so; otherwise, the witness test will be deemed waived. If a witness test is conducted and is not acceptable, IPC will provide written notice of the deficiencies, and Interconnection Customer will have 20 Business Days to resolve the deficiencies.

5. Interconnection Details

5.1 Small Generator Facility

The Small Generator Facility is defined as Interconnection Customer's facility for the production of electrical energy that has a nameplate capacity of 10 MW or less. A Small Generator Facility does not include Interconnection Equipment, Interconnection Facilities, or System Upgrades.

The proposed Project will consist of a 4.2 MVA solar array in Malheur County, Oregon and connect to the 34.5kV system on IPC's [redacted] distribution circuit approximately [redacted] of the [redacted] substation ([redacted]). The total Project output as studied is 4.2 MW.

Interconnection Customer's system will be constructed as follows:

1. The solar inverter system will comprise of [redacted] inverters.
2. A plant controller will be used to control the inverter system and to implement smart inverter functionality for operating the Project within a voltage range specified by IPC at the POI.

The above-referenced inverters, or equivalent inverters that have the same specifications and functionality as stated above, must be utilized. Additional study and/or equipment may be necessary if a different inverter is utilized that has different specifications and functionality than that which was studied.

The inverters for the project will be set to IPC's default inverter settings. The default inverter settings are available in the Common File Format and may be found at the following link:

https://docs.idahopower.com/pdfs/BusinessToBusiness/CustomerGeneration/Idaho_Power_Inverter_Settings.csv

5.2 Other Facilities Provided by Interconnection Customer

Telecommunications

In addition to communication circuits that may be needed by Interconnection Customer, Interconnection Customer is responsible 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.

The Interconnection Facilities site demarcation for the following circuits, as required, shall be at a location in close proximity to IPC's Interconnection Facilities, and IPC must approve of the location.

Refer to Appendix C for Idaho Power Guidelines for Alternative Telecom Service Strategies for the following required circuits.

Dial-Up Circuit

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 IPC's Interconnection Facilities. If the circuit becomes unreliable, Interconnection Customer will be responsible for the circuit repair.

Interconnection Customer shall provide either a POTS dial-up circuit from a telecommunication carrier or through alternate means. Alternate means could be through, but not limited to, providing a POTS dial-up circuit from Interconnection Customer's voice communications systems or other voice communications system. Any POTS dial-up circuit provided shall have all its equipment powered from a battery or use an uninterruptable power supply to ensure the service remains available in the event of a power failure. Any battery or uninterruptible power supply shall be capable of maintaining the POTS service for a minimum of a two (2)-hour period during a power failure. Interconnection Customer shall be responsible for the installation, operation, and maintenance of the POTS dial-up circuit. The POTS dial-up circuit shall be available 24 hours a day, seven days a week, except for a two (2)-hour maintenance period, which will be limited to occurring once per calendar month.

Any provided POTS dial-up circuit shall be directly dialable from the public-switched telephone network without intermediate steps, such as an operator or other means of connecting the call. This is often referred to as Direct Inward Dialing (DID) in the telecommunications industry. Likewise, dialing out from the POTS dial-up circuit shall be possible without intermediate steps, such as an operator or other means of connecting the call. The ability to dial international numbers is not required.

Telemetry

OPTION 1

One Open Systems Interconnection (OSI) model layer 2 Ethernet Point-to-point service of the following type: MPLS VPWS, MPLS EVPN-VPWS, Carrier Ethernet E-Line EVPL, or IPC-approved equivalent. The demarcation interface shall be an IEEE 802.3u 100BaseFX or IEEE 802.3z 1000BaseSX physical interface on each end of the service at the Interconnection Facilities site demarcation and at Boise Bench Transmission Station (2001 E. Amity Rd, Boise ID 83716). The demarcation interfaces are both multimode fiber interfaces, but that does not mean the entire service must be fiber optically based.

The service will be multiplexed by IPC for use by SCADA, Revenue Meters, SCADA RTU Management, Protective Relay Management, and IPC network traffic, as required. If the minimum data rate is or becomes unattainable or unreliable, Interconnection Customer will be responsible for the service repair or replacement. One single data flow is required between the endpoints and shall be delivered on an IPC-specified VLAN on each end.

Use of Internet Protocol within this service or use of Internet Protocol to transport the data in this service is prohibited. Shared use of this service is not permitted.

The service shall be configured and perform to the below specifications:

- Service flow specifications:
  - 2.0 megabits per second committed information rate (CIR), or greater
  - 46 byte to 1536 byte Ethernet frame data payload capacity
  - One IEEE 802.1Q VLAN tag at each endpoint which is associated with this service data flow
- Service acceptance criteria:
  - Round trip Ethernet frame transfer delay (FTD) shall be less than 100 milliseconds
  - Ethernet frame delay variation (FDV) shall be less than 5 milliseconds
  - Ethernet frame loss rate (FLR) shall be less than 0.05%
  - No end-to-end Ethernet frame transport connection unavailability over one second in total length over the test duration

If the minimum availability is or becomes unattainable, Interconnection Customer will be responsible for the service repair or replacement.

OPTION 2

One DS1 (High Capacity Digital Service meeting the technical requirements of GR-54-CORE:1995 and TR-NWT-000341:1993; NCI code 04DU9.1SN) high capacity serial circuit (ESF, B8ZS, Conventional Interface) between the Interconnection Facilities site demarcation and Boise Bench Transmission Station (2001 E. Amity Rd, Boise ID 83716) for multiplexed use by SCADA, data for up to four Revenue Meters, SCADA RTU Management, and Protective Relay Management, as required.

If the minimum data rate is or becomes unattainable or unreliable, Interconnection Customer will be responsible for the circuit repair or replacement.

Reliability and Data Security

The communication circuits shall be DC powered at the terminus locations, and all equipment within any third-party or Interconnection Customer networks shall be DC powered, such that they will continue operation during a power outage for a minimum of four (4) hours and meet the specified reliability and bandwidth requirements.

Interconnection Customer is responsible for supplying stable metered AC power during circuit testing and commissioning and battery-backed DC power during operation.

Interconnection Customer 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 Ethernet or DS1 circuit must be transported using solely Layer 2 protocols (e.g., serial point-to-point data communication, with no routable Layer 3 transport, such as Internet Protocol).

Circuit Acceptance and Testing

The Ethernet circuit shall be terminated in an approved demarcation box with the fiber optic strands connected to fiber optic barrel connectors and labeled accordingly at a location approved by IPC. The DS1 circuit 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 must be installed and tested by Interconnection Customer prior to IPC acceptance testing and operational prior to Interconnection Customer being allowed to generate power into IPC's system.

For the Ethernet circuit, the service will be tested using International Telecommunications Union Y.1564. The service will be tested upon initial commissioning for a 24-hour Y.1564 performance test duration. The service may be tested again for a 24-hour Y.1564 performance test duration upon reconfiguration or outage. Otherwise, subsequent service tests will be for a 15-minute Y.1564 performance test duration. The services' overall yearly end-to-end Ethernet frame transport availability shall not be less than 99.9% and shall also comply with the service acceptance criteria in section 1.4.1.b.

For the DS1 circuit, a Quasi Random Signal Source (QRSS) test pattern will be used for testing between the DS1 circuit demarcations points and require fifteen (15) consecutive minutes with zero (0) errored seconds and zero (0) severely-errored seconds to pass; a subsequent fifteen (15) consecutive minutes (thirty [30] minutes total) with three (3) or fewer total errored seconds and zero (0) severely-errored seconds to pass if previous test failed; a subsequent fifteen (15) consecutive minutes (forty-five [45] minutes total) with nine (9) or fewer total errored seconds and two (2) or fewer severely-errored seconds to pass if previous test failed. In addition, an "all 1s" stress test with zero (0) errored seconds over a five (5)-minute interval to pass, an "all 0s" stress test with zero errored seconds over a thirty (30)-second interval to pass, and a "1 in 8" stress test with zero (0) errored seconds over a five (5)-minute interval to pass will also be performed (Reference ANSI T1.510:1999).

In any case, circuits with demonstrated reliability issues during commissioning will be required to demonstrate twenty-four (24) hours of reliable service by Interconnection Customer 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.

Interconnection Customer or their third-party communications provider may need to install communications equipment (e.g., batteries, multiplexers, etc.) near each terminus of the required communications circuits. If this equipment is required, Interconnection Customer 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 Interconnection Customer.

Operational Response

Interconnection Customer's failure to maintain and/or restore and repair intermittent or non-operational telecommunications circuits may result in disconnection of Interconnection Customer's Generating Facility until the circuits successfully complete IPC's end-to-end testing.

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

The leased services required by IPC are to be kept separate from any communication services required by Interconnection Customer. 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 Interconnection Customer requires their own leased services, they must be provided through a separate TELCO demarcation, as noted in the following figure.

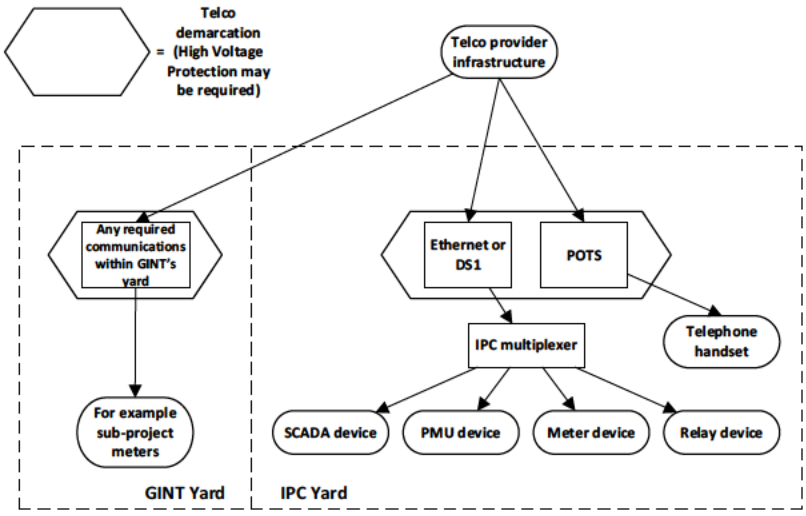

Figure 1
Telecommunications diagram.

Ground Fault Equipment

Interconnection Customer will install transformer configurations that are Grounded-Wye to Grounded-Wye.

Interconnection Customer will limit the ground fault current to less than 20 amps as measured at the POI.

Generator Output Limit Control

Interconnection Customer will install equipment to receive/transmit signals from IPC Load Serving Operations for Generation Output Limit Control (GOLC)—see Section 5.5 of this FSR. IPC's recommended method of communication for GOLC is via fiber between the Interconnection Facilities and the Project.

Local Service

Interconnection Customer is required to take local service from the local service provider as a retail customer. Interconnection Customer is responsible to arrange for local service to Interconnection Equipment and/or Small Generator Facility.

If receiving local service from IPC, Interconnection Customer shall coordinate such requirements with IPC so that local service can be provided in accordance with the provisions contained within the applicable service schedule. The service schedule and functional settlement will be determined during construction of the Project.

Property

Interconnection Customer shall acquire the property for IPC's Interconnection Facilities and provide IPC easements for the Interconnection Facilities, including year-round access. Interconnection Customer shall coordinate with IPC to incorporate into Interconnection Customer's Project site plan and easements enough area for a vehicle to safely access IPC's Interconnection Facilities for maintenance. Interconnection Customer, at its sole cost and expense, will provide IPC documents and services as identified below relating to IPC's land rights required for its Interconnection Facilities.

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 conveyance pursuant to a Warranty Deed
- Access Easement
- Easements for distribution service lines, major distribution power lines, and related ancillary facilities as determined necessary by IPC at IPC's sole discretion, to support the Interconnection Facilities and Interconnection Customer's development
- Completed Applications with respective fees for Release of Easements and/or Crossing Agreements that may be required for the Project
- Crossing Agreements

- Any other Project-specific documents deemed necessary by IPC

IPC review and approval of the Land Transaction Documents may require six to nine months. Interconnection Customer is advised to provide all required Land Transaction Documents at the earliest possible time. Refer to Appendix B for a complete reference guide to IPC's Corporate Real Estate Fee Acquisition requirements.

Upon IPC approval of all Land Transaction Documents, IPC will provide Interconnection Customer final form documents for signature by the landowner of record. Interconnection Customer shall return the original signed and recorded Land Transaction Documents to IPC. All recording and mailing fees shall be paid by Interconnection Customer. IPC shall provide to Interconnection Customer electronic copies of all fully executed and recorded Land Transaction documents.

Site Work

Interconnection Customer will provide property, property access, and site plan. IPC will perform land clearing and grading for IPC's Interconnection Facilities.

Monitoring Information

If Interconnection Customer requires the ability to monitor information related to the IPC recloser in the generator interconnection package, Interconnection Customer is required to supply its own communications circuit to the demarcation box.

Meteorological Data

To integrate the solar energy into IPC's system and operate IPC's solar forecasting tool, Interconnection Customer must provide solar irradiation and weather data from the Project's physical location to IPC via real-time telemetry in a form acceptable to IPC. The associated cost for obtaining this data is Interconnection Customer's responsibility.

The data must be provided at ten (10)-second intervals and consist of:

1. Global Horizontal Irradiance
2. Plane of Array Irradiance
3. Ambient Temperature
4. Wind Speed and Wind Direction
5. Relative Humidity

The installed instruments must equal or exceed the specifications of the following instruments:

- ***Temperature and Relative Humidity*:** R.M Young Relative Humidity and Temperature Probe Sensors Model 41382

- ***Wind*:** R.M Young Wind Monitor Model 05103
- ***Pyranometer*:** Apogee Instruments Model SP-230

Generator Technical Information and Drawings

During Project design development, Interconnection Customer shall provide draft design prints containing technical information, including but not limited to impedances and equipment brand and models. After construction, Interconnection Customer shall submit to IPC all the as-built information, including prints with the latest approved technical information and commissioning test results in accordance with the timing requirements outlined in the OR PURPA GIA.

5.3 Operating Requirements

Voltage Fluctuation

The Project is required to comply with the applicable voltage fluctuation limits found in IEEE Standard 1453-2022 *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.

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

Voltage Schedule

The Project will be required to control voltage at the Project POI in accordance with a voltage schedule provided by IPC Load Serving Operations.

Voltage–Reactive Power

The Project is required to comply with the applicable Voltage and Current Distortion Limits found in IEEE Standard 519-2022 *IEEE Standard for Harmonic Control in Electrical Power Systems* or any subsequent standards as they may be updated from time to time. The Project will be required to follow the voltage–reactive power characteristic curve as defined in IEEE 1547-2018 or subsequent standard and shown in Figure 2 with the settings shown in Table 4.

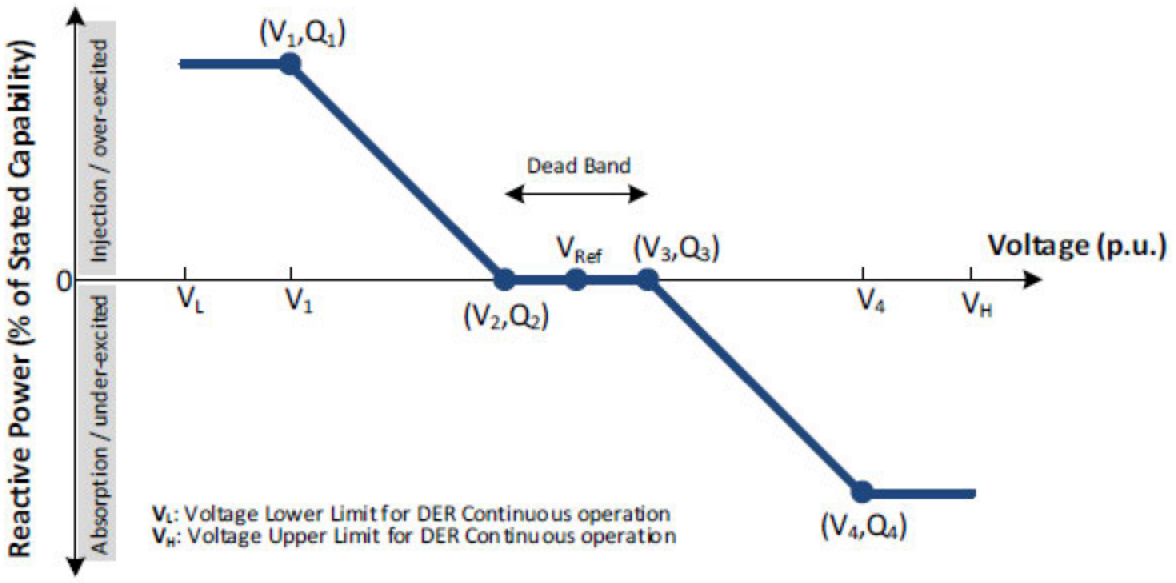

Figure 2
Voltage-Reactive Power Settings (IEEE 1547-2018).

The Project will be required to install a plant controller for managing the real and reactive power output of the 4.2 MW inverter array at the Project POI. The maximum injecting reactive power required will be [redacted] and the maximum absorbing reactive power required will be [redacted].

Table 4
Voltage Reactive Power Settings for the Project

Set Point	V (pu)	Set Point	Q (pu)
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]

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. The Project must be capable of remaining interconnected for voltage as low as 0.5 PU for 20 seconds.

Frequency Response Requirements

The Project must be capable of providing Primary Frequency Response for both positive and negative frequency deviations as specified in the required inverter settings. Provided the Project meets the above Primary Frequency Response requirements, IPC shall not curtail the Project

when such curtailments are caused by a need to comply with applicable Frequency Response reliability standards.

Momentary Cessation Requirements

Momentary cessation shall be maintained for 1 second when voltages are below 0.5 PU in the required inverter settings.

Interconnection Customer will be able to modify power plant facilities on Interconnection Customer side of the POCO only if 1) there is no impact on the operation of the transmission or distribution system, 2) the generation facilities are electrically isolated from the system via X-# on pole 4, and 3) a terminal clearance is issued by IPC's Load Serving Operator.

5.4 Reactive Power

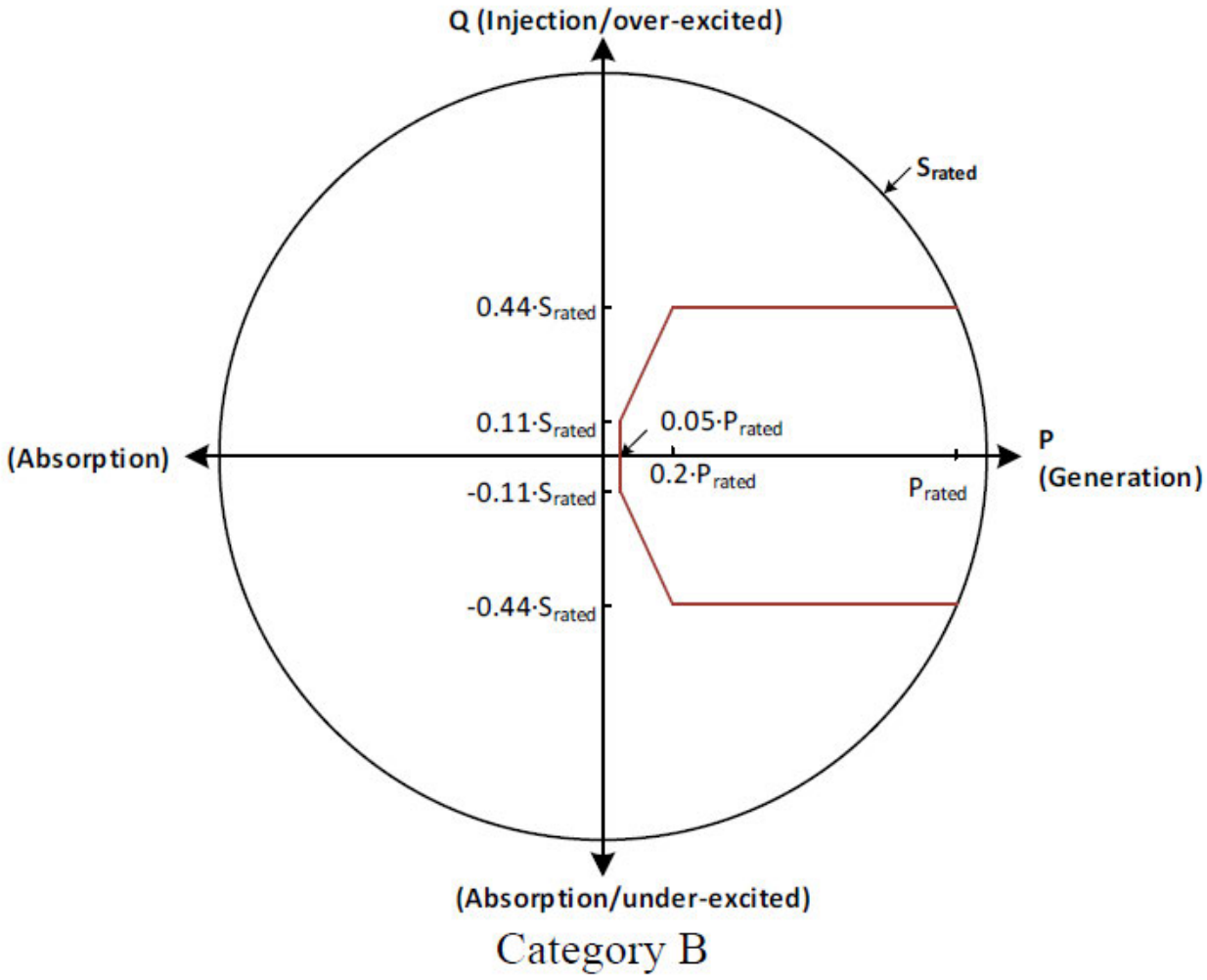

Figure 3
Reactive Power Requirements (IEEE 1547-2018).

5.5 Generation Interconnection Supervisory Data Requirements

Interconnection Communications

All supervisory data points described in this Section 5.5 of the FSR are to be communicated between Interconnection Customer and IPC via serial DNP3 protocol. The physical transport will be a single pair of fiber cables. A demarcation box housing a fiber termination panel will be accessible to both parties.

Interconnection Customer is responsible for this fiber connection from their PLC or other controls equipment to the fiber termination panel inside the demarcation box. IPC will connect their supervisory control system to the same termination panel.

Generator Output Limit Control

The Project will be subject to reductions directed by IPC Load Serving 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. GOLC will be accomplished with a setpoint and discrete output control from IPC to the Project indicating maximum output allowed.

IPC requires interconnected Projects to accept GOLC signals from IPC's energy management system (EMS) when they are connected to IPC's transmission system.

The GOLC signals will consist of four points shared between the IPC EMS (via the IPC RTU) and Interconnection Customer Generator Controller (SGC). The IPC RTU will be the master, and the SGC will be the slave.

- **GOLC Setpoint:** An analog output that contains the MW value Interconnection Customer should curtail to, should a GOLC request be made via the GOLC On/Off discrete output Control point.

- **GOLC Setpoint Feedback:** An analog input feedback point must be updated (to reflect the GOLC setpoint value) by the SGC upon the SGC's receipt of the GOLC setpoint change, with no intentional delay.

- **GOLC On/Off:** A discrete output (DO) control point with pulsing Trip/Close controls. Following a "GOLC On" control (DNP Control Code "Close/Pulse On"), the SGC will run power output back to the MW value specified in the GOLC Setpoint. Following a "GOLC Off" control (DNP Control Code "Trip/Pulse On"), Interconnection Customer is free to run to maximum possible output.

- **GOLC On/Off Feedback:** A discrete input (DI) feedback point must be updated (to reflect the last GOLC DO Control Code received) by the SGC upon the SGC's receipt of the GOLC DO control, with no intentional delay. The feedback DI should latch to an

OFF state following the receipt of a "GOLC OFF" control and it should latch to an ON state following the receipt of an "GOLC ON" control.

If a GOLC control is issued, it is expected to see MW reductions start within 1 minute and plant output to be below the GOLC Setpoint value within 10 minutes.

Voltage Control

IPC requires interconnected Projects to accept voltage control signals from IPC's EMS when they are connected to IPC's transmission system.

The voltage control will consist of one setpoint and one feedback point shared between the IPC EMS and the SGC.

- **Voltage Control Setpoint:** An analog output that contains the voltage Interconnection Customer should target for plant operation. This setpoint will have a valid control range between 0.95 and 1.05 per unit (p.u.) of nominal system voltage.

- **Voltage Control Setpoint Feedback:** An analog input feedback point must be updated (to reflect the Voltage Control Setpoint) by the SGC upon the SGC's receipt of the voltage setpoint change, with no intentional delay.

The control will always be active; there is no digital supervisory point like the GOLC On/Off control above.

The voltage control system should operate at the voltage indicated by the voltage control setpoint with an accuracy of +/- 0.5%.

Interconnection Customer should supervise this control by setting up "reasonability limits" (i.e., configure a reasonable range of values for this control to be valid). As an example, they will accept anything in the valid control range (between 0.95 and 1.05 p.u.) but reject values outside this range. If they were fed an erroneous value outside the valid range, their control system would default to the last known, good value.

Auxiliary Data Points

Additional status points relating to local weather, equipment, and other supervisory information is required in accordance with the following Generation Interconnection Supervisory Data Table. This table includes a comprehensive list of data points to be sent and received via the fiber connection described in the Interconnection Communications portion of this Generation Interconnection Supervisory Data Requirements section.

Table 5
Distribution-interconnected solar Generation Interconnection Supervisory Data Table

Digital Inputs to IPC (DNP Obj. 01, Var. 2)			
Index	Description	State (0/1)	Comments:
0	GOLC Off/On (Control Feedback)	Off/On	Feedback provided by Interconnection Customer
1	52A Interconnection Customer Main Breaker (if present)	Open/Closed	Sourced at substation
2	52A Interconnection Customer Capacitor Breaker (if present)	Open/Closed	Sourced at substation

Digital Outputs to Interconnection Customer (DNP Obj. 12, Var. 1)		
Index	Description	Comments:
0	GOLC Off/On	Control issued by IPC
1	EMS COMM Off/On	Control issued by IPC

Analog Inputs to IPC (DNP Obj. 30, Var. 2)							
Index	Description	Raw High	Raw Low	EU High	EU Low	EU Units	Comments:
0	GOLC Setpoint Value Received (Feedback)	32767	-32768	TBD	TBD	MW	Provided by Interconnection Customer
1	Voltage Control Setpoint Value Rec'd (Feedback)	32767	-32768	TBD	TBD	kV	Provided by Interconnection Customer
2	Maximum Park Generating Capacity	32767	-32768	TBD	TBD	MW	Provided by Interconnection Customer
3	Ambient Temperature	32767	-32768	327.67	-327.68	DEG C	Provided by Interconnection Customer
4	Wind Direction	32767	-32768	327.67	-327.68	Deg from North	Provided by Interconnection Customer
5	Wind Speed	32767	-32768	327.67	-327.68	M/S	Provided by Interconnection Customer
6	Relative Humidity	32767	-32768	TBD	TBD	%	Provided by Interconnection Customer

Analog Inputs to IPC (DNP Obj. 30, Var. 2)							
Index	Description	Raw High	Raw Low	EU High	EU Low	EU Units	Comments:
7	Global Horizontal Irradiance	32767	32768	TBD	TBD	W/M^2	Provided by Interconnection Customer
8	Plane of Array	32767	32768	TBD	TBD	W/M^2	Provided by Interconnection Customer
9	SPARE						
10	VOLT1_MIN (Feedback)	32767	-32768	327.67	-327.68	PU	Provided by Interconnection Customer
11	VOLT2_LOW (Feedback)	32767	-32768	327.67	-327.68	PU	Provided by Interconnection Customer
12	VOLT3_HIGH (Feedback)	32767	-32768	327.67	-327.68	PU	Provided by Interconnection Customer
13	VOLT4_MAX (Feedback)	32767	-32768	327.67	-327.68	PU	Provided by Interconnection Customer
14	VAR1_LEAD (Feedback)	32767	-32768	327.67	-327.68	% AVAIL	Provided by Interconnection Customer
15	VAR2_ZERO2 (Feedback)	32767	-32768	327.67	-327.68	% AVAIL	Provided by Interconnection Customer
16	VAR3_ZERO3 (Feedback)	32767	-32768	327.67	-327.68	% AVAIL	Provided by Interconnection Customer
17	VAR4_LAG (Feedback)	32767	-32768	327.67	-327.68	% AVAIL	Provided by Interconnection Customer

Analog Outputs to Interconnection Customer (DNP Obj. 41, Var. 2)							
Index	Description	Raw High	Raw Low	EU High	EU Low	EU Units	Comments:
0	GOLC Setpoint	32767	-32768	TBD	TBD	MW	Control issued by IPC
1	SPARE						Control issued by IPC
2	VOLT1_MIN (Feedback)	32767	-32768	327.67	-327.68	PU	Provided by Interconnection Customer

Analog Outputs to Interconnection Customer (DNP Obj. 41, Var. 2)							
Index	Description	Raw High	Raw Low	EU High	EU Low	EU Units	Comments:
3	VOLT2_LOW (Feedback)	32767	-32768	327.67	-327.68	PU	Provided by Interconnection Customer
4	VOLT3_HIGH (Feedback)	32767	-32768	327.67	-327.68	PU	Provided by Interconnection Customer
5	VOLT4_MAX (Feedback)	32767	-32768	327.67	-327.68	PU	Provided by Interconnection Customer
6	VAR1_LEAD (Feedback)	32767	-32768	327.67	-327.68	% AVAIL	Provided by Interconnection Customer
7	VAR2_ZERO2 (Feedback)	32767	-32768	327.67	-327.68	% AVAIL	Provided by Interconnection Customer
8	VAR3_ZERO3 (Feedback)	32767	-32768	327.67	-327.68	% AVAIL	Provided by Interconnection Customer
9	VAR4_LAG (Feedback)	32767	-32768	327.67	-327.68	% AVAIL	Provided by Interconnection Customer

Appendix A
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 B
IPC Parcel Acquisition Requirements for Interconnection Customers

Interconnection Customer Land Requirements for Development of Transmission Provider's Interconnection Facilities—Easement

These requirements were developed by Idaho Power Company's (IPC) Corporate Real Estate department. Allow 6–12 months for land transaction portion of the Project—may be longer depending on Project specifics.

An easement may be secured if IPC will not have a purpose or need to use the property beyond the current development. An example would be a solar farm development that requires a new IPC interconnection substation that will not be used by IPC in the future if the solar farm operation is discontinued.

1. **Right of Entry Agreement**. A Right-of-Entry Agreement will allow IPC 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 IPC 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 IPC.

2. **Purchase and Sale Agreement—Substation Easement—Access Easement—Power Line Easements**. IPC requires the following easements from the underlying property owner for IPC's 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 IPC.

3. **Title Commitment**. IPC requires that Interconnection Customer ensure the substation, access, and power line easement lands are free from any encumbrances to title. To meet this requirement, a Title Commitment with ALTA extended coverage owner's policy in IPC's name is required. All exceptions to title insurance need to be provided with the Title Commitment for IPC review. Upon receipt, Corporate Real Estate will review all exceptions and will advise of any necessary follow-up actions. Importantly, IPC requires a form of ownership that is free and clear from all encumbrances.

4. **Survey**. An ALTA survey for the substation, access and power line easements is required. The ALTA survey will be reviewed by IPC'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 IPC's surveyor who will advise of any necessary revisions.

6. **Phase I Study**. Interconnection Customer shall provide IPC 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 IPC's name, 2) recognizes that IPC holds an interest in the easement areas and is a User of the Phase I report, and 3) provides appropriate environmental warranties to IPC for the lands over which the substation, access and power line easements will be located. The Phase I study will be reviewed by IPC, and IPC 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 IPC's use of or access to the interconnection facilities, Interconnection Customer shall be responsible to secure any necessary agency authorizations or permits in IPC's name, at Interconnection Customer's sole cost and expense. Interconnection Customer shall be responsible to ensure all conditions of approval are satisfied, fees are paid, etc. for the agency permits.

8. **Land Use Permits/Authorizations**. Interconnection Customer 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 IPC's construction, operation and maintenance of the interconnection facilities (example: Conditional Use Permit from city or county). Any such authorizations shall be secured in IPC's name and for the benefit of IPC. IPC will require that Interconnection Customer 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 Interconnection Customer's sole cost and expense.

10. **Miscellaneous Documents.** Other Miscellaneous Documents as necessary for the specific Project, which may include Memorandums of Understanding or Agreement, etc.

Appendix C
Alternative Telecommunications Service

Idaho Power Guidelines for Alternative Telecom Service Strategies for Generator Interconnection Projects

This document, supporting the Small Generator Interconnection Agreement (OR PURPA GIA), serves as a guideline for the review of strategies for telecom circuit services proposed as alternatives to established common carrier solutions, to meet the requirements of POTS, Ethernet, 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 Interconnection Customer without involving engineering analysis by IPC nor implying IPC 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 IPC's Boise Bench Substation, which houses the IPC Ethernet and DS1 termination equipment required for generation interconnection circuits. Alternative services may require establishment of additional approved competitive local exchange carrier (CLEC) with isolated entrance facilities into the Boise Bench Substation, or creation of a composite service with transition to CenturyLink, for terminus for all Ethernet and DS1 circuits. Additionally, generation interconnection Project site telecom services are typically provided by CenturyLink or other common carriers who serve the geographic area. Interconnection Customers, 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 IPC 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, IPC 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 Interconnection Customer.

1. **For Ethernet:** Analysis to demonstrate composite circuit operational availability per Metro Ethernet Forum 3.0 Carrier Ethernet standards or Internet Engineering Task Force MPLS standards with the introduction of any kind of third-party intermediary equipment.

2. **For DS1:** Analysis to demonstrate composite circuit operational availability per CenturyLink/Qwest TechPubs 77200 and 77375 with the introduction of any third-party intermediary equipment.

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 or any subsequent standards as they may be updated from time to time.

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, IPC circuit demarcations in a manner to maximize the successful subsequent acceptance tests by IPC 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.

    - **Ethernet Circuit:** Successful testing per CIRCUIT ACCEPTANCE AND TESTING in the Telecommunications section of the FSR.

    - **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 fewer 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 fewer total errored seconds and two or fewer 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 Interconnection Customer prior to final acceptance testing by IPC. IPC to facilitate access to DS1 demarc at Boise Bench Substation 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 (IPC Regional Technicians, CenturyLink or other CLEC with entrance facilities at Boise Bench Substation, CenturyLink or other CLEC with telecom facilities at third-party circuit handoff, third party circuit provider, Interconnection Customer).

Note: IPC technicians can only be dispatched by the IPC dispatch center once the telecom circuit owner has isolated any circuit issues to IPC owned equipment. An acceptable outage response plan includes the burden of troubleshooting generation interconnection Project circuit failures to the proper side of the generation interconnection Project/IPC demarc falls on the Interconnection Customer who provides the circuits prior to involving IPC personnel.

Revision History

Date	Author	Revisions
4/18/2025	Laura Nelson	Interconnection Facilities Study Report version 1.0 issued.
6/17/2025	Laura Nelson	Removed reference to the [redacted] in IPC's Interconnection Facilities. Version 1.1.