

Definitive Interconnection Process Application

Checklist

_____ A completed interconnection request application using the form provided in Appendix-1 of Attachment N of the OATT with all applicable fields completed, applicable technical information including study data.

_____ An application fee of \$5,000

_____ Study deposit

_____ Demonstration of Site Control

_____ Point of Interconnection¹

_____ If the request is for NRIS and if the Generating Facility has not been designated as a **Network Resource** within PSCo's Control Area, the point of delivery or the geographic location on PSCo's system at which Interconnection Customer intends to deliver output out of PSCo's Control Area shall be specified

_____ Summer and Winter ratings of the Generating Facility

_____ The requested Interconnection Service amount if the requested Interconnection Service is less than the Generating Facility nameplate capacity

_____ Readiness Milestone 1 ("M1")

_____ Security equal to 1 times the study deposit amount in the form of an irrevocable letter of credit or cash. PSCo's letter of Credit template is posted: <http://www.oasis.oati.com/psco/index.htm>

_____ The expected **In-Service Date** of the request. If the Generating Facility will have a phased in-service date, specify each phase.

_____ Identify if the Generating Facility has already registered as a Qualifying Facility with FERC or intends to apply as a Qualifying Facility²

_____ Identify if the Generating Facility has any series compensated lines

¹ POI has to be a PSCo Transmission System Facility for the request to be processed under Xcel Energy OATT

² Qualifying Facility is subjected to state interconnection rules

Note: Exceptions for In-Service Date longer than 7 years and up to ten (10) years will require written request for exception showing reasonable evidence that the engineering, permitting and construction of the Generating Facility will take longer.

PSCo requires the Generating Facility to be effectively grounded. Facilities installing Wye-Wye main step-up transformers are required to demonstrate effective grounding per IEEE 142 before the LGIA execution

Submit a separate Interconnection request for each site. If submitting multiple Interconnection Requests for a single site, they shall be submitted as individual requests and submit deposits and Security (in lieu of Readiness Milestone) with each request based on the MW of Interconnection service requested per each LGIR. An interconnection requests to evaluate one GIR at two different voltage levels shall be treated as two separate Interconnection Requests. Also, specify the details of any such duplication of requests in the Interconnection Request.

The following technical data needs to be submitted along with the application to make a valid request.

Also submit the “GI data model checks and validation” for each request which checks that the power flow and dynamic data are consistent with the data in the application.

Technical Information Required for DISIS Requests: PSCo is currently accepting GE-PSLF modeling data in V18 compatible format and PSSE modeling data in V34.

1. Lumped equivalent representation of the Generating Facility in current WECC approved GE-PSLF version .sav or.epc format and the associated dynamic data in .dyd format. These models shall be developed in accordance with the following WECC modeling guidelines:
 - a. WECC Guide for Representation of Photovoltaic System in Large-Scale Load Flow Simulations
https://www.wecc.org/_layouts/15/WopiFrame.aspx?sourcedoc=/Reliability/WECCPVPIantPowerFlowModelingGuide.pdf&action=default&DefaultItemOpen=1
 - b. WECC PV Power Plant Dynamic Modeling
https://www.wecc.org/_layouts/15/WopiFrame.aspx?sourcedoc=/Reliability/WECC%20Solar%20Plant%20Dynamic%20Modeling%20Guidelines.pdf&action=default&DefaultItemOpen=1

- c. WECC Wind Plant Dynamic Modeling
<https://www.wecc.org/Reliability/WECC%20Wind%20Plant%20Dynamic%20Modeling%20Guidelines.pdf>
 - d. WECC Battery Storage Guideline
<https://www.wecc.biz/Reliability/WECC%20Battery%20Storage%20Guideline%20Updates%20Bo%204-5-17%20SLT%204-7-17%20XX%20SC.docx>
2. One-line diagram of the generating facility showing different voltage transformation levels up to the POI.
 3. A geographical map showing the generating facility, at least the last span of the gen-tie and the POI.
 4. Equivalent negative and zero sequence impedance data for the collector system, generator, transformers and gen-tie or **fault** contribution from the generation facility as seen at the POI.
 5. Manufacturer data sheets showing the machine characteristics (for example, reactive capability curve, saturation curve) depending on the fuel technology.
 6. For Battery Energy Storage, a description of the available operating mode of the plant (i.e., expected output levels in the generation mode and MW value in the load mode), maximum charge and discharge states, and charging and discharging characteristics, and associated dynamic models.
 7. Specifications of the voltage and frequency control modes the Generating Facility will be operating in.
 8. UFLS and UVLS modeling data demonstrating fault ride through behavior per PRC-024.
 9. Specify the following for Hybrid Facilities
 - MW levels of each resource comprising the Hybrid Facility
 - Technology to be used to limit the output to Interconnection Service requested

For PV and BES Hybrid Facilities, specify the following - MW, MWH and duration of the Battery in charging and discharging modes

- AC-coupled vs DC-coupled
- Specify the source for charging the BES
- Type of Battery (Lithium- ion, Lead-acid etc)
- Ability of the Battery to provide Voltage control in the charging mode – Yes/No

Request can be submitted to PSCo via email - PSCoInterconnection@xcelenergy.com

Site Control Requirements for PSCo's LGIP

Site Control shall mean the exclusive land right to develop, construct, operate, and maintain the Generating Facility over the term of expected operation of the Generating Facility. Site Control shall include the right to develop, construct, operate, and maintain Interconnection Customer's Interconnection Facilities. Site Control may be demonstrated by documentation establishing: (1) ownership of, a leasehold interest in, or a right to develop a site of sufficient size to construct and operate the Generating Facility and associated Interconnection Customer's Interconnection Facilities; (2) an option to purchase or acquire a leasehold interest in a site of sufficient size to construct and operate the Generating Facility and associated Interconnection Facilities; or (3) any other documentation that clearly demonstrates the right of the Interconnection Customer to exclusively occupy a site of sufficient size to construct and operate the Generating Facility. Site Control for any co-located project is demonstrated by a contract or other agreement demonstrating shared land use for all co-located projects that meet the aforementioned provisions of this Site Control definition.

Elements of Site Control

For an Interconnection Customer to sufficiently demonstrate Site Control for the interconnection process, PSCo must receive evidence for each of the three key elements: (1) conveyance, (2) exclusivity, and (3) term.

- Conveyance is evidenced by either a written grant of a land right from the landowner to the Interconnection Customer that either conveys the property to the Interconnection Customer (i.e. deed), grants the right to possess the property to the Interconnection Customer (i.e. Lease) or grants the Interconnection Customer the right to future conveyance or grant of possession at the Interconnection Customer's sole discretion (i.e. option to lease or option to buy). A Memorandum of Understanding ("MOU") or a Letter of Intent ("LOI") to demonstrate conveyance is not sufficient since MOUs/LOIs do not contain a binding Site Control commitment under PSCo's Revised LGIP. Documents must demonstrate that the Interconnection Customer has the right to possess and use the site for the purposes contemplated in the Interconnection Request.
- Exclusivity is evidenced by written acknowledgement from the landowner of the identified site that, for the term (which shall be, at a minimum, equal to the term requirement defined below) of the lease, purchase or option agreement, the site owner cannot make the identified site available for purchase or lease to anyone other than the Interconnection Customer. Note that exclusivity is required for the Site Control documentation for Generating Facilities, but it is not required for not Interconnection Facilities.
- Term requirement is the minimum duration required to evidence adequate Site Control. To evidence Site Control for each Phase of the interconnection process and prior to signing the LGIA, the Interconnection Customer must either own the site in fee simple, have a leasehold interest in the site for a term similar to the expected life of the

Generating Facility, or have a valid option to purchase the site or obtain a leasehold interest in the site for a term similar to the expected life of the Generating Facility.

Acreage Requirements

To demonstrate 100% Site Control, the Interconnection Customer must show that it has sufficient acreage (the “Site”) to develop, construct, operate, and maintain the size and type of Generating Facility that Interconnection Customer is requesting to interconnect.

- For a wind-powered Generating Facility, the minimum accepted Site (without a wind turbine layout) is 30 acres/MW of wind generation.
- For a solar-powered Generating Facility, the minimum accepted Site (without a solar array layout) is 6 acres/MW of solar generation.
- For a storage Generating Facility, the minimum accepted Site (without a detailed layout) is 1 acre/MW of generation.
- For a conventional Generating Facility, the minimum accepted Site (without a detailed layout) is 40 acres.
- For hybrid facilities that are not co-located, the Interconnection Customer must demonstrate minimum accepted Site (without a detailed layout) required for each fuel type.
- For the Interconnection Customer’s Interconnection Facilities an option for easement or an easement for the entire path of the Interconnection Customer’s Interconnection Facilities would demonstrate 100% Site Control.

If the Interconnection Customer has insufficient land to satisfy the above acreage requirements or if the Interconnection Request is for a co-located hybrid facility, PSCo reserves the right, in its discretion, to approve Site Control if the Interconnection Customer submits a Professional Engineer (PE) stamped site plan drawing (licensed in the state of Colorado) that depicts the proposed generation arrangement and specifies the maximum facility output for that arrangement. PSCo has the right, but not the duty, to verify whether the Interconnection Customer’s Site Control is fully sufficient for the technology and MWs requested for a proposed Generating Facility.

The percentage of the Site required to be under Interconnection Customer’s exclusive control increases as the Interconnection Request proceeds as shown in the table below.

Milestone	Demonstration of Site Control for the Generating Facility	Site Control of Interconnection Customer's Interconnection Facilities
M1	50%	0%
M2	50%	0%
M3	60%	0%
M4	75%	0%
M5	90%	50%

Site Control Documentation

The Interconnection Customer must submit Documents demonstrating Site Control as referenced above and defined in Sections 1 and 7.7 of the Revised LGIP.³ The Interconnection Customer must submit each document as a separate PDF file unless otherwise specified herein. PDF files containing more than one agreement will not be reviewed.

- A valid option to lease or purchase (or a memorandum of the option) must be executed by the landowner of the Site and the Interconnection Customer.
- A valid option to lease or memorandum of option to lease must demonstrate that the Interconnection Customer and landowner of the Site have agreed upon key lease terms such as the leased area, duration, lease rate and authorized use of the Site to enable the Interconnection Customer to develop, construct, operate, and maintain the Generating Facility over the term of expected operation.
- A valid option to lease or memorandum of option to lease must not contain restrictions or limitations in the option agreement that would prevent the Interconnection Customer from exercising the option or language that limits Site use such that it could not be used for the purpose contemplated in the Interconnection Request.
- A valid option to purchase or memorandum of option to purchase must demonstrate that the Interconnection Customer and landowner of the Site have agreed upon key sale terms such as the purchase price and acreage.
- A valid option to purchase or memorandum of option to purchase must not contain restrictions or limitations in the option agreement that would prevent the Interconnection

³An order from the Colorado State Land Board finding that a solar or wind production lease of the property at issue to the Interconnection Customer is in the public interest and delegating to staff of the State Land Board authority to take action to implement the Board's finding is valid documentation demonstrating the right of the Interconnection Customer to exclusively occupy a site of sufficient size to construct and operate the Generating Facility, presuming that the acreage described in the order satisfies the acreage requirements as set forth herein.

Customer from exercising the option or language that limits use after conveyance to Interconnection Customer which would prohibit or materially interfere with the Interconnection Customer's ability to develop, construct, operate, and maintain the Generating Facility as contemplated in the Interconnection Request.

- A valid option to purchase or lease must not have expired. If the option term has expired at any stage of the Site Control review process, then the Interconnection Customer must include documentation that it has either extended the option or exercised its option to purchase/lease the site.
- A valid option to purchase or lease must not contain encumbrances of title which would materially interfere with the Interconnection Customer's ability to develop, construct, operate, and maintain the Generating Facility as contemplated in the Interconnection Request. If the Site is burdened by other encumbrances, including but not limited to agriculture, ranching and mining leases, then the Interconnection Customer must provide documentation confirming that these encumbrances are either subordinate to the agreement between the landowner and the Interconnection Customer or otherwise provide documentation that the encumbrances will not adversely affect development of the Generating Facility.

Site Control documentation submitted by the Interconnection Customer must also include the following:

- All acreage submitted by the Interconnection Customer must contain a valid legal description.
- The documentation of Conveyance for either ownership or possession for Site Control must be held in the name of the Interconnection Customer. If the entity reflected on the documentation evidencing Site Control is different than the Interconnection Customer, the Interconnection Customer must provide documentation to PSCo's satisfaction that establishes the relationship of common control between the party with Site Control and the Interconnection Customer.
- The Interconnection Customer must provide a Google Earth KMZ site plan map, data files and documentation showing the following information:
 - Outline of the project area for the Generating Facility containing sufficient land to meet the acreage requirements set forth above.
 - Individual parcel boundaries contained within the project area. Each parcel boundary shall have a reference to the applicable lease/option/deed/agreement encumbering said parcel.
 - The proposed location of the Interconnection Facilities and the Point of Interconnection.

- The location of the project area, Interconnection Facilities and Point of Interconnection must be in the same approximate location as the coordinates provided in the Interconnection Request.
- Any applicable local spacing and setback requirements.
- Any existing leasehold interests currently encumbering the property.
- In the event the Interconnection Customer elects to share a Site with other existing uses, including but not limited to co-located Generating Facilities, the Interconnection Customer shall include documentation demonstrating that the Generating Facility referenced in the Interconnection Request is concurrently feasible with the development of any other uses that will share Site Control over all or a portion of the acreage. Such proof of concurrent feasibility shall include:
 - An identification of any other Interconnection Requests or projects uses that will share all or a portion of the same Site; and
 - Identification of the proposed location and space utilization of all uses that will share the Site together with any related technical information specified in the Business Practices Manual to enable PSCo to determine that development of the project referenced in the submitted Interconnection Request is not inconsistent with development of any of the other uses that will share all or a portion of the same site.
- A signed Site Control Affidavit executed by an officer or agent of the Interconnection Customer attesting that the Interconnection Customer has met the minimum Site Control percentage outlined above. Such affidavit shall adhere to the form attached herein as Exhibit A.

Site Control Review Process

PSCo will review Site Control at each Phase of the LGIP and prior to the signing of the LGIA. Site Control documentation that has already been provided with the Interconnection Request and deemed not deficient, will also be considered valid documentation as permissible by the Tariff at later stages in the LGIP, provided that PSCo reserves the right to require confirmation from the Interconnection Customer that previously-submitted Site Control evidence remains valid. Any change to the Interconnection Customer's previously provided documentation establishing proof of Site Control must be provided to PSCo prior to the next phase of the LGIP. PSCo may validate Site Control while an LGIA is in suspension.

The Site Control review process applies to any new Generating Facility or any uprate of an existing Generating Facility that requires increased acreage. For any uprate of an existing Generating Facility where the physical space occupied by the Generating Facility does not change, PSCo may apply a limited Site Control review process wherein it confirms conveyance, exclusivity and term as described above.

Affidavit of Site Control

1. The undersigned (“Affiant”) is an officer or an authorized employee, member or agent of the Interconnection Customer for the Interconnection Request associated with _____.
2. Affiant swears and affirms that the Interconnection Customer has (1) submitted to Public Service Company of Colorado (“PSCo”) all of the Site Control documents in their entirety for _____ as required pursuant to PSCo’s Site Control Requirements which are referenced in PSCo’s Business Practice Manual, (2) that such documents satisfy the Site Control Requirements, and (3) should the Interconnection Customer revise or supplement any of the documents submitted with the Interconnection Request, then the Interconnection Customer will provide PSCo with the updated documents.
3. Affiant has reviewed all such Site Control documents submitted for _____ and has personal knowledge of its contents.
4. Affiant swears and affirms that the Interconnection Customer has Site Control for _____ acres of land for its Generating Facility and _____ linear miles for its Gen-Tie line.
5. Affiant affirms that the Interconnection Customer has the sole and exclusive right to develop, construct, operate, and maintain the Generating Facility on the land under Interconnection Customer’s Site Control, and there are no superior rights or encumbrances to the land prohibiting the Interconnection Customer from developing, constructing, operating or maintaining the Generating Facility as proposed in the Interconnection Request.
6. Affiant hereby swears and affirms that the Interconnection Customer possess Site Control in accordance with Sections 1 and 7.7 of the Revised Standard Large Generator Interconnection Procedures.

I declare the that the information contained herein is true and correct to the best of my knowledge after inquiry into the facts as set forth herein.

By: _____

Name: _____

Title: _____

State of _____

County of _____

Subscribed and sworn before me on this _____ day of _____, 20__ by _____ in his/her capacity as _____ of _____.

(Signature of Notary Public)

(Seal)