



Generation Interconnection Transition Cluster Study

Phase One Cluster Study
Customer Review Period Meeting
February 9, 2026



Agenda

| Topic | Presenter |
|------------------------|---|
| Introduction | Jeff Cook, Vice President, Planning and Asset Management |
| Meeting Expectations | Cherilyn Randall, Electrical Engineer, Customer Service Engineering |
| Cluster Study Overview | Dave Cathcart, Electrical Engineer, Transmission Capabilities Planning |
| Next Steps | Cherilyn Randall, Electrical Engineer, Customer Service Engineering |
| Open for Questions | All |



Jeff Cook
Vice President, Planning and Asset Management



Meeting Expectations

Please write all questions into the meeting chat

- The Bonneville Power Administration (BPA) team will pause occasionally and respond to questions
- In each entry, specify which development company you are with and provide the project request number (if applicable)

If time remains at the end of the meeting, BPA will take questions from public attendees

Acronyms are spelled out on the last slide

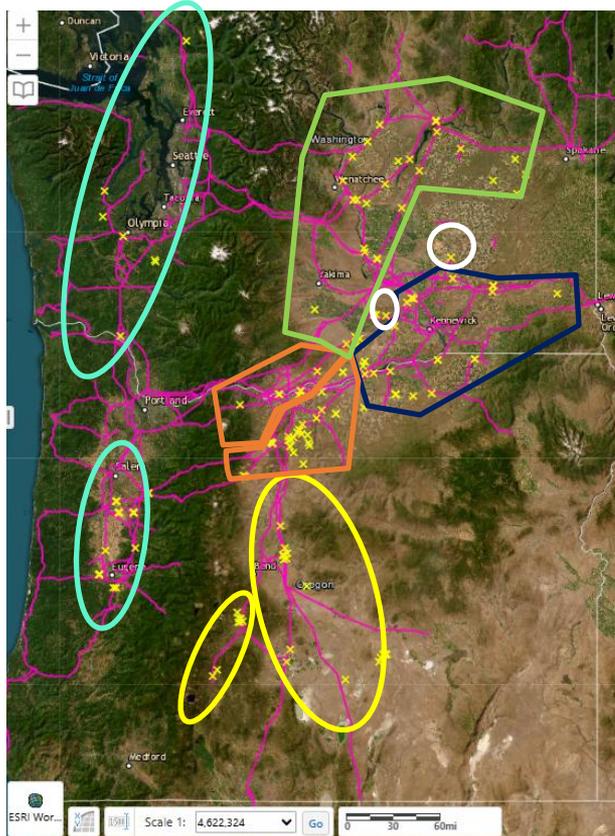
Cluster Study Overview

Dave Cathcart

Electrical Engineer, Transmission
Capabilities Planning



Cluster Areas



| Cluster Area | IRs | IS MW (gen) | Charge MW (load) | POIs |
|--------------------|------------|---------------|------------------|-----------|
| GRAND TOTAL | 167 | 60,499 | -41,567 | 59 |
| LowerC1 | 24 | 8,712 | -7,083 | 5 |
| LowerC2 | 18 | 6,723 | -5,860 | 5 |
| North | 34 | 10,865 | -7,140 | 13 |
| South1 | 20 | 12,950 | -8,080 | 3 |
| South2 | 8 | 2,700 | -1,700 | 2 |
| TriC/Umat1 | 24 | 10,133 | -6,390 | 12 |
| WestWA | 7 | 1,581 | -1,111 | 6 |
| WestOR | 29 | 6,460 | -4,040 | 10 |
| TriC/Umat2 | 1 | 100 | 0 | 1 |
| TriC/Umat3 | 1 | 125 | -63 | 1 |
| SE ID | 1 | 150 | -100 | 1 |

- **167 Requests**

- Solar, Nuclear, Wind, Biofuel, Gas, and grid-charging storage (BESS)

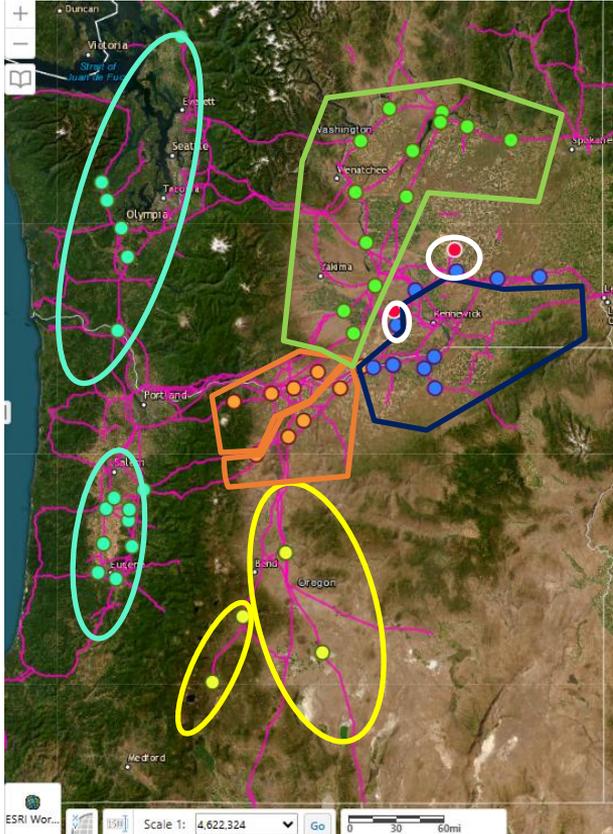
- **+61 GW / -42 GW Total Requested**

- (+)Generating / (-)Grid-charging

- **11 Cluster Areas**

- 8 large IRs groups
- 3 solo IRs (TU2, TU3, SE.ID)

Studied Points of Interconnection (POI)



| Cluster Area | IRs | IS MW (gen) | Charge MW (load) | POIs |
|--------------------|------------|---------------|------------------|-----------|
| GRAND TOTAL | 167 | 60,499 | -41,567 | 59 |
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- **POI = station + voltage**
- **59 POIs, but 55 stations**
 - Several stations with 230kV & 500kV POIs
- 11 existing stations
- 44 new stations
 - 14 already proposed by other BPA projects (senior IRs, LLIRs, TSEP, etc)

Next Steps

Cherilyn Randall

Electrical Engineer, Customer Service
Engineering



Customer Review Period (90 days)

90 days (Section 6.6)* from January 31, 2026, is **April 30, 2026**

Within 10 business days, BPA to hold review meetings (Section 6.6(b))*

Within 45 calendar days, submit Modifications Form ([Transition Process](#))

- Material Modification analysis request (Section 4.4.3)*
- Allowed modifications (Section 4.4.1)*

Submit the [Redemonstration](#) Form

- Commercial Readiness (Section 6.6.1)*
- Models (Section 6.6.2)*

Submit [Site Control](#) Form (Section 6.6.3)*

Individual Review Meetings will not be held ([Transition Process Business Practice Section H.3.c.i](#))

Email withdrawals to GI_ClusterStudies@bpa.gov

*Citations are to Attachment L of BPA's [Open Access Transmission Tariff \(OATT\)](#)

After the Customer Review Period

BPA will use reasonable efforts to validate models, Site Control, and Commercial Readiness (Section 6.6.4)

If no withdrawals, BPA will announce no Cluster Re-study within 25 business days of the close of the Customer Review Period (Section 6.7(a))

If withdrawals, BPA will decide if a Cluster Re-Study is necessary within 30 business days of the close of the Customer Review Period (Section 6.7(b to d))

- If no restudy, BPA will update impacted reports within 30 calendar days of that determination
- If a restudy is required, BPA will use Reasonable Efforts to complete a Re-study in 120 calendar days

Within 5 business days of announcing no Re-Study, BPA will tender Phase Two Cluster Study Agreements (Section 7.1)

Customers have 15 business days to execute and deliver the agreement and deposit (Section 7.2)

POI Consultations

Under Section 6.4, BPA determined POIs that benefited reliability and cost for the Cluster Area

- BPA provided notice when a requested POI was not viable and moved

The studied POIs were not shared until the Phase One reports were posted

BPA will continue to make reasonable efforts to consult on moved POIs before the Phase Two Cluster Study begins

Comments or questions can be posted during the meetings using the meeting chat or submitted via email to GI_ClusterStudies@bpa.gov

- Comments and questions will be answered by email or meeting

Modifications

Section 4.4.1 and Section L of the [Large Generator Interconnection \(LGI\) Transition Process Business Practice](#)

- Up to 60% reduction of the request
 - Nameplate of facility, MW of requested Interconnection Service, or both
- Technical parameters of the generating facility or step-up transformer
- Configuration
- Form: [Phase One Modification Form](#)
 - Located after the Phase One Review Period Redemonstration Form

Modifications are proposed by submitting the Modification Form

- Must be submitted within the first 45 days of the Customer Review Period
- BPA will only accept a single Modification Form per Interconnection Request

Modifications must be reflected in materials submitted with the Redemonstration Form where applicable, such as models

Due **March 16, 2026** (BPA will not accept late submissions)

Material Modification Analysis

Section 4.4.3 and Section L of the [LGI Transition Process Business Practice](#)

- Any modifications not permitted under Section 4.4.1 must be submitted to BPA for Material Modification analysis

Requests for Material Modification analysis are made by submitting the Modifications Form

- Must be submitted within the first 45 days of Customer Review Period
- BPA will only accept a single Modification Form per Interconnection Request
- Also submit everything required in the Large Generator Interconnection Business Practice

Modifications that are accepted must be reflected in materials submitted with the Redemonstration Form where applicable, such as models

- Submit Modifications Form before Redemonstration Form

BPA has 30 calendar days to identify if change is permissible or is a Material Modification

- Customer has 15 calendar days to decide whether to proceed with the change

Due **March 16, 2026** (BPA will not accept late submissions)

Models

Section 3.c of the [Redemonstration Form](#)

Interconnection Customer submits the following items:

- Validated detailed positive-sequence powerflow and dynamic models representing the Generating Facility, Collector System, and any associated High Voltage equipment in PowerWorld™ (.pwb, .aux) or GE PSLF (.epc, .sav, .dyd) file formats
- Validated full-sequence impedance models (short circuit) in ASPEN™ Oneliner (.olr) file formats
- Validated plant-specific Electromagnetic Transient (EMT) models that include original equipment manufacturer (OEM) control and protection settings in a file format readable by PSCAD™, and EMT model validation report
- Single-line diagrams of the Generating Facility's connection to the POI identified in the Phase 1 Transition Cluster Study (TCS) report

Model Acceptance Tool [NW Wind Modeling Tools and Documentation](#)

Transition Phase One Study Costs

At the beginning of the study, BPA good-faith estimated cost of performing the Transition Phase One Cluster Study: \$5M

Not final, but current cost is approximately \$1.7M

BPA's final cost will include the review meetings

- Those who withdraw in the Customer Review Period will get refunds based on that cost (6-8 weeks after)

Those who resubmit to proceed to Phase Two will be trued up later after either the reissued reports are done or after all re-studies

Questions?

Questions and comments should be directed to the GI Cluster Studies mailbox with your Account Executive cc'd on the message

- Email Address: GI_ClusterStudies@bpa.gov
- Please be specific in the subject line to help us track and respond

Customer Review Period Form Checklist

Modification Form (submit only if making modifications)

- Allowed modifications
- Material Modification analysis request

By March 16, 2026

Redemonstration Form

- Commercial Readiness supporting documents or financial instrument
- Models (Must match modifications)
- Site Control Form (site control supporting documents (leases, maps, etc.)

By April 30, 2026

Appendix: Acronyms

| | |
|------|---------------------------------------|
| BESS | Battery Energy Storage System |
| EMT | Electromagnetic Transient |
| GW | Gigawatt |
| IR | Interconnection Requests |
| IS | Interconnection Service |
| kV | Kilovolts |
| LGI | Large Generator Interconnection |
| LLIR | Line and Load Interconnection Request |

| | |
|------|---------------------------------|
| MW | Megawatt |
| OATT | Open Access Transmission Tariff |
| OEM | Original Equipment Manufacturer |
| POI | Point of Interconnection |
| PSLF | Positive Sequence Load Flow |
| TCS | Transition Cluster Study |
| TSEP | TSR Study and Expansion Process |
| TSR | Transmission Service Request |