

March 20, 2026

Rebecca Feuerlicht
Senior Utility Analyst
201 High Street SE, Suite 100
Salem, Oregon 97301-3398

Re: AR 681 Interconnection Workstream 1: Coalition Response to Staff Questions

Dear Ms. Feuerlicht:

The undersigned organizations submit this letter as a joint response to the staff questions circulated following the February 26, 2026, Interconnection Workstream 1 meeting. The submitting organizations share direct interest and support for the implementation of House Bill 2065 and 2066.

We appreciate the Commission's structured and substantive approach to this proceeding. The questions raised in the February 26 follow-up reflect a serious engagement with the technical complexity of microgrid interconnection, and this coalition is committed to working collaboratively to develop a framework that is durable, workable for utilities and applicants alike, and fully consistent with the goals of HB 2065 and HB 2066.

This letter addresses each of the four staff questions with technical positions developed through coalition working group collaboration. In addition to the written responses below, we submit the attached presentation as Exhibit A to this filing. The presentation is titled Electric Power System Overview and 5X Microgrid Topologies and was prepared by ProtoGen, Inc. on behalf of the coalition. Exhibit A was developed specifically to advance all AR 681 activities but especially for the Interconnection Workstream discussions. It provides a shared technical baseline covering typical major equipment sequence from the transmission grid through behind-the-meter distributed energy resources, five reference single-line microgrid topologies, and a comparison of Track A and Track B interconnection requirements mapped to the conceptual level 1-3 classification framing.

The coalition's four overarching requests to Staff are summarized here and developed in full in the responses below:

- Formalize Track A / Track B as the primary organizing framework for microgrid interconnection, anchored on whether utility distribution infrastructure is used within the microgrid boundary.
- Establish the Microgrid System Interconnection Request (MSIR) as the application type for microgrids that present their assets as a single controllable entity, consistent with IEEE 2030.7, with the MSIR required for Track B and available for Track A if elected.
- Develop a Hybrid Interconnection process through the workstream that allows qualified third-party engineers to conduct interconnection and islanding studies subject to utility data access and review authority, with specific parameters to be defined by the Workstream group.
- Establish a clear record that HB 2066 operates independently of PURPA and that QF certification is not a prerequisite for participation as a microgrid resource under Oregon law.

We look forward to continuing this discussion at the March 26 workstream meeting and to collaborating with all stakeholders on the framework that follows. Questions regarding this response may be directed to the coalition contacts identified below.

Respectfully submitted,

Alex Clingman, Sustainable Northwest and joined by:

*BoxPower
Cascadia Renewables
Clean Coalition
League of Oregon Cities
Microgrid Resources Coalition
Oregon Solar+Storage Industries Association
PAE
ProtoGen, Inc
Sulis Energy*



Exhibit A

*Electric Power System Overview and 5X Microgrid Topologies, ProtoGen, Inc. (March 2026)
Prepared for the AR 681 Interconnection Workstream, Oregon Public Utility Commission*

1 PROPOSAL: EXHIBIT A AS A SHARED STAKEHOLDER WORKING DOCUMENT

The coalition respectfully requests that Staff formally receive Exhibit A as a shared working reference document for the Interconnection Workstream rather than as a static coalition exhibit. Microgrids are technically complex, and one of the most significant barriers to productive regulatory dialogue is the absence of a common vocabulary and a shared visual reference for what these systems actually look like in the field.

A working document managed through the AR 681 workstream process would allow all stakeholders, including utilities, staff, applicants, and community advocates, to refine terminology, correct errors, and add configurations as the rulemaking develops. The coalition proposes the following approach for this working document:

- Staff maintains version control of the document and publishes revisions through the workstream docket as a numbered exhibit series.
- Any stakeholder may submit proposed revisions using tracked changes through the standard workstream comment process.
- Revisions are discussed and resolved at monthly workstream meetings, with Staff incorporating accepted changes into successive versions.
- The document is intended to inform but not to bind. It does not constitute a rule or an order. Its purpose is to enable semitechnical participants to develop informed positions and for legal clarity to improve around microgrid implementations.

The coalition acknowledges the goals stated in Exhibit A: to describe what is typical 80 to 90 percent of the time without diving too deeply into technical weeds. Feedback on the document from all workstream participants would be especially valuable, and the coalition welcomes corrections and additions.

2 TRACK A / TRACK B DECISION TREE

Staff's proposed decision tree, which bifurcates the interconnection pathway based on whether the microgrid uses utility distribution infrastructure, is substantially workable and aligns with the framework the coalition has advocated throughout this proceeding. We affirm Staff's core finding: this single question is the most legally meaningful and technically coherent organizing principle for microgrid interconnection, and it is more useful as a regulatory anchor than the Level 1/2/3 hierarchy alone.

The coalition offers the following observations on the decision tree as presented:

Track A is appropriate for all microgrids that operate exclusively on customer-owned infrastructure behind a single Point of Interconnection. This includes both simple behind-the-meter facility islands (Configuration 1 in Exhibit A) and more complex private campus microgrids with customer-owned medium-voltage distribution connecting multiple buildings (Configuration 2 in Exhibit A). The distinguishing feature is not system size or the number of buildings served. What matters is whether the microgrid boundary is contained entirely within customer-owned infrastructure. Track A applicants should follow the existing interconnection process, potentially utilizing a Microgrid System Interconnection Request (MSIR) to submit all assets as a single queue entry rather than submitting individual DER applications.

Track B is triggered when any utility-owned distribution infrastructure, including lines, transformers, or switching equipment, falls within the proposed microgrid boundary. Configurations 3, 4, and 5 in Exhibit A illustrate the three most common Track B scenarios: a utility campus with a single customer and multiple Points of Interconnection, a full feeder circuit island serving multiple customers, and a partial circuit island formed by a sectionalizing switch. Each of these configurations involves utility infrastructure within the island boundary, which creates operational coordination obligations that do not arise in Track A. The determination of whether a project may be studied as a microgrid system should not depend on perfect topological simplicity, but rather on whether the system can be operated and controlled as a unified electrical entity at the point(s) of interconnection. Consistent with this principle, a project shall be eligible for system-based interconnection review where, as described in the interconnection application, it is designed to operate under coordinated control and exhibit predictable aggregate behavior at the point(s) of interconnection.

Coalition Request 1: Formalize Track A / Track B

Replace Level 1/2/3 as the primary regulatory organizer for the interconnection framework. Anchor the pathway determination on whether utility distribution infrastructure is used within the microgrid boundary, as this distinction is grounded in law, operational responsibility, and utility coordination requirements.

3 ISLANDING STUDY REQUIREMENTS FOR LEVEL 2 VERSUS LEVEL 1

There is a meaningful difference in interconnection islanding requirements between a simple Level 2 campus microgrid using only customer-owned infrastructure and an existing Level 1 NEM solar-plus-storage installation. It requires careful framing to understand what that difference actually is and what it implies for the regulatory process.

The key distinction is between internal islanding and parallel islanding on the utility network. A Level 1 system and a Track A Level 2 campus microgrid both operate entirely behind the customer's Point of Interconnection. When either system islands, it does so on customer-owned infrastructure, and the utility network is protected from inadvertent energization by the IEEE 1547-2018 compliant equipment with built-in anti-islanding detection functions. The primary concern in both cases is the same: ensuring that the interconnected equipment meets IEEE 1547-2018 requirements and will not backfeed the utility network during a grid outage.

For these Track A scenarios, the coalition agrees that no formal islanding study beyond the standard interconnection impact study is required, provided that all DER equipment is IEEE 1547-2018 compliant and the system's islanding behavior is contained entirely behind the Point

of Interconnection. The impact study should address the collective export behavior of the microgrid assets at the Point of Interconnection, and the MSIR framework provides the mechanism to evaluate all assets holistically rather than individually.

A Track A Level 2 campus microgrid is operationally distinct from a Track B microgrid in one important respect: the microgrid operator is a private party who is solely responsible for the engineering and safe operation of their internal system. Internal islanding studies for a private campus are the responsibility of the operator's licensed engineers, not a utility review function. The utility's interconnection review appropriately focuses on the interface at the Point of Interconnection and on ensuring that the microgrid does not create unsafe conditions on the utility network. It is not the utility's role to audit the internal engineering of a private campus that is entirely behind the meter.

This is a meaningful contrast with Track B, where the proposed island encompasses utility infrastructure. In that case, the liability profile shifts substantially. The utility has legitimate operational and safety interests in how the island forms, operates, and reconnects, because its own equipment and its obligations to other customers are directly involved. This is why Track B requires a formal islanding study as part of the interconnection process.

Coalition Request 2: Draw Clear Lines of Responsibility

For Track A microgrids (all customer-owned infrastructure, single POI), the standard interconnection impact study is sufficient. No formal islanding study beyond Division 82 with IEEE 1547-2018 compliance verification is required. The microgrid operator bears responsibility for internal system engineering. A formal utility-approved islanding study is warranted only when the proposed island encompasses utility-owned distribution infrastructure (Track B).

4 ISLANDING STUDY INTEGRATION FOR COMPLEX LEVEL 2 TRACK B CONFIGURATIONS

For Track B microgrids that propose to island on utility distribution infrastructure, the interconnection process must expand beyond the standard impact and facilities study sequence to include a formal islanding study and Coordinated Operations Agreement (COA). AR 681 should define and determine where these expanded requirements integrate into the overall process and how to evaluate a system of microgrid resources collectively rather than individually. These are the most consequential process design questions in this workstream, and the coalition offers a substantive position on both.

4.1 Where the Islanding Study Integrates into the Process

The coalition's position is that the islanding study should be initiated early in the interconnection process, running concurrently with or immediately following the impact study rather than as a sequential step after it. The current practice of studying each DER asset individually and sequentially is poorly suited to microgrid applications, where the behavior of the entire system during an islanding transition is materially different from the sum of its individual components.

An early, concurrent islanding study serves several practical purposes. It identifies any required system upgrades to protection coordination, voltage regulation, or switching equipment before the applicant has made significant financial commitments based on an incomplete picture of

project feasibility. It allows the islanding study findings to inform the facilities study rather than creating a situation where the facilities study must be revised after the fact. It also allows the Coordinated Operations Agreement to be developed with full knowledge of the island's operational parameters, rather than being negotiated against an incomplete technical baseline.

The coalition recognizes that standardizing the islanding study methodology is an open question, and we support Staff's implicit suggestion that AR 681 should address it. A common framework covering the four key study areas identified in Exhibit A, namely islanding boundary effects, fault current and protection coordination, voltage regulation under island, and cumulative DER interaction, would give utilities a clear and defensible process and would give applicants predictable timelines and cost expectations. The coalition requests that this standardization be an explicit deliverable of the workstream.

4.2 Coordinated Operations Agreement (COA)

Microgrids within Track B will need a bilateral operating agreement between the microgrid operator (defined in HB 2066) and the utility that governs ongoing joint operations after the interconnection is approved. The COA defines how the two parties will coordinate dispatch decisions, planned and emergency switching events, islanding transitions, grid support services, and communication protocols during normal and emergency conditions. It is the ongoing operating contract distinct from the interconnection approval itself. The conditions of the COA will require specificity informed through the expanded Microgrid System Interconnection Request (MSIR) process.

4.3 Studying Microgrid Assets Collectively: The Hybrid Interconnection Model

The coalition proposes that AR 681 establish a Hybrid Interconnection model applicable to all system types covered under HB 2065 and Executive Order 25-25, which extended the HB 2065 framework to all distribution interconnections, not only microgrids. The core principle is that the utility retains authority over the interconnection approval, but the study process can be conducted, in whole or in part, by qualified third-party engineers at the applicant's election, subject to utility review and acceptance.

For purposes of this hybrid interconnection framework, the microgrid should be evaluated as a single controllable system at the point of interconnection rather than as a collection of individual DER assets. The interconnection review should be conducted using an aggregate, system-level modeling approach that reflects the combined behavior of generation, storage, load, and control systems. The utility's analysis should focus on system-level impacts at the point of interconnection using representative operating envelopes, including maximum export, minimum load, ramp rates, and fault contribution under both grid-connected and islanded operating modes. Internal system configuration and coordination should be treated as a "black box" behind the point of interconnection and remain the responsibility of the microgrid operator's licensed engineers. The utility shall not require individual DER-level interconnection studies where a project is evaluated under the MSIR system-based framework.

Consistent with this framework, utility review should be limited to system impacts at the point of interconnection and should not extend to internal microgrid design or operational coordination, nor require re-study of individual system components once evaluated under the system-based approach. This boundary is necessary to avoid duplicative analysis, reduce interconnection timelines, and align review scope with the utility's operational responsibility.

This approach reflects a practical reality. Oregon's electric utilities do not currently have standardized interconnection study tools, methodologies, or staff capacity scaled to the volume and complexity of applications that HB 2065 and EO 25-25 are expected to generate. Requiring utilities to build all that capacity internally before any application can advance would delay the market indefinitely. A hybrid model allows experienced third-party engineers to shoulder study work while the utility retains decision-making authority over the results.

The coalition proposes the following structural elements for a Hybrid Interconnection process:

- The applicant submits a single interconnection application that treats all generation, storage, load, and control assets as a unified system. For microgrid applicants, this is the MSIR consistent with the IEEE 2030.7 framework. This allows the utility to evaluate the system holistically rather than processing each DER asset individually, using aggregated system modeling at the point of interconnection
- The applicant elects whether to have the utility conduct the interconnection and islanding studies using its own resources, or to engage a qualified third-party engineer to conduct the studies subject to utility data access and review authority.
- For third-party studies, the utility provides controlled access to the relevant distribution system network model data needed to conduct an accurate study, including feeder topology, existing DER inventory, protection settings, and voltage regulator configurations.
- The utility reviews and accepts or rejects third-party study results within a defined timeline. Disputes over methodology or findings are resolved through a process established in the AR 681 rules.
- The specific scope, data-sharing protocols, third-party engineer qualification standards, and utility review timelines are to be developed through the workstream process. The coalition is proposing the framework and requesting that the workstream take up the scoping work.
- COA conditions are considered, then defined and agreed.

Software automation can meaningfully accelerate this model. Modern distribution planning tools, including open-source options such as EPRI's OpenDSS and commercial offerings such as CYME, can enable more efficient data sharing, parallel study workflows, and faster utility review of third-party submissions. The coalition requests that Staff encourage utilities to identify and begin adopting tools capable of supporting hybrid interconnection workflows as part of their broader AR 681 implementation planning.

The coalition also urges Staff to advance discussions around increased public transparency into the electric power system as a foundational element of interconnection reform. When applicants can access utility equipment details, time-series load profiles, and network capacity data before submitting an application, they arrive with a more accurate picture of what is feasible at a given location. This reduces the overall volume of interconnection requests, improves the quality and completeness of the requests that are submitted, and shortens the time utilities spend reviewing incomplete or poorly scoped applications.

Coalition Request 3: Hybrid Interconnection

Enable feasibility, COA, impact, islanding, and facilities studies to run as hybrid engagements with qualified third-party engineers, with utility review and approval authority

retained. Increase publicly available system data from substation to meter. Leverage software automation to reduce friction and shorten interconnection timelines. The specific process parameters are to be defined through the workstream.

5 VISUAL DIAGRAMS OF MICROGRID CONFIGURATIONS

Exhibit A serves as the coalition's primary comment response. The attached Electric Power System Overview & 5X Microgrid Topologies presentation provides five baseline single-line topology diagrams representing the most common microgrid configurations. Each diagram identifies customer-owned and utility-owned infrastructure, the Point of Interconnection (POI), the Point of Common Coupling (PCC), the applicable Track designation, and the applicable microgrid level as defined in Order 25-519.

The five configurations are summarized below for reference:

Configuration	Description	Track	Level	Key Regulatory Requirements
1	Facility Island: Single Customer, BTM	Track A	Level 1	Single POI; MSIR or standard IX; no COA required
2	Private Campus: Customer-Owned Distribution	Track A	Level 2	Single POI; MSIR or standard IX; no COA
3	Utility Campus: Single Customer, Multiple POIs	Track B	Level 2	MSIR; COA; islanding study
4	Full Feeder Circuit Island: Community Microgrid	Track B	Level 3	MSIR; COA; islanding study; zone designation
5	Partial Circuit Island: Sectionalizing Switch	Track B	Level 3	MSIR; COA; islanding study; zone designation

The coalition notes that the distinction between POI (Point of Interconnection) and PCC (Point of Common Coupling) is a source of frequent confusion in regulatory and technical discussions. Exhibit A includes working definitions of both terms, distinguishing the POI as a physical location where conductors connect and the PCC as an electrical reference point where the microgrid's performance is measured for IEEE 1547-2018 compliance purposes. These concepts are aligned with IEEE 2030.7 and traditional utility labeling, though as Exhibit A acknowledges, the PCC and POI may overlap in simple configurations and differ in complex ones. The coalition requests that AR 681 explore and establish clear, consistent definitions of these terms to be used throughout the rulemaking.

6 COALITION REQUEST: PURPA AND QF CERTIFICATION CLARITY

The coalition requests that Staff establish a clear record in this proceeding that HB 2066 operates as an independent state regulatory framework for community microgrids. Qualification for participation as a microgrid resource under HB 2066 must not be conditioned on federal Qualifying Facility certification under PURPA.

The two frameworks serve distinct and non-overlapping purposes. PURPA was enacted to increase competition in wholesale energy markets by giving independent generators access to utility purchase obligations. HB 2066 was enacted to increase energy resilience by enabling community microgrids to form, island, and serve critical loads during grid disruptions. A project can fully achieve the resilience purpose of HB 2066 without ever implicating the competitive energy purpose of PURPA. Requiring QF certification as a precondition for microgrid participation would impose a federal prerequisite that Oregon law does not require, that Congress did not intend to apply to state resilience frameworks of this kind, and that would obstruct a state policy goal without advancing any federal one.

The compliance boundary between HB 2066 and PURPA resolves through a straightforward test: is the resource in question supporting a microgrid? If yes, HB 2066 applies. If no, PURPA applies as it otherwise would. The coalition notes for clarity that this line is further defined by the HB 2066 community microgrid definition itself. The only way a microgrid can use utility distribution infrastructure under Track B is through a microgrid zone designation, which is a requirement of the HB 2066 community microgrid definition. A front-of-meter generation resource that is not connected to a designated microgrid zone project therefore falls outside the HB 2066 framework and remains subject to PURPA in the ordinary course. This distinction is not ambiguous, and Staff should say so plainly in the AR 681 record.

This clarity carries particular urgency for community microgrid configurations that include front-of-meter generation resources, community solar, or CBRE programs. Without a clear record on this question, these resources face uncertainty about whether their participation in a microgrid structure triggers PURPA obligations. Establishing that record now will reduce litigation risk and investor uncertainty as projects begin to develop under the AR 681 framework.