



Oregon Public Utility Commission
201 High Street SE, Suite 100
Salem, OR 97301-3398

October 11, 2024

RE- UM2111 Background on Battery Integration

Dear Staff and Stakeholders,

Thank you for the opportunity to comment on the scope of Phase 2 of UM 2111. OSSIA largely supports staff's recommendations for the scope of Phase 2. Phase 1 addressed some important topics for net metered systems but there is one other issue OSSIA would like to see addressed in Phase 2, which we detail in these comments. In addition, OSSIA agrees with the comments of the Renewable Energy Coalition regarding the scope of technical issues and specific issues regarding interconnection timelines, process, and the ability of third parties to perform studies and perform construction.

Phase 1 of UM2111 took an important step to introduce batteries into the interconnection framework in Oregon. It did this by capturing and defining the flexibility attributes that grid-interactive batteries provide alongside PV systems. The restructuring from nameplate system sizes to *export capacity* was a threshold for Oregon interconnection.

Even with these updates, persistent growing pains are now being registered by PV and battery contractors relating to discretionary, local decision-making that diverges from nationally established standards. In the absence of specific construction guidelines appearing in OAR 39 and 82, customized battery system design requirements have sprung up from utilities, adding inconsistency, confusion and installation costs.

PV and battery contractors now maintain internal spreadsheets for these differing requirements for utilities around Oregon (IOUs and public utilities both). Diverging design requirements from utilities confuses installers regarding the more urgent and important need to learn, master and maintain current electric and fire safety codes, not to mention fulfill the manufacturer requirements.

Utility design discretion can manifest itself in a reinforcing cycle:

- Diverging requirements appear across utilities conceived by non-specialists at those utilities aiming to reformulate internal practices independent of wider industry and technology consistency.



- With the window of discretion and authority there comes a lack of incentive to participate or stay current with national consensus-based, code-making that defines uniform construction and safety requirements (IEEE, UL, NFPA, etc).

Residential Disconnect Location and Type

The issue at hand is not the existence of residential safety disconnects for batteries. These are outlined by *NEC 2023 706.15 Disconnecting Means* in a way that clarifies the functional intent, type and location of disconnects. The issue is that utilities commonly disagree (with each other and with the standards) on the location and the type of battery disconnects, in a way that makes the underlying building codes irrelevant. What is good enough for first responders and maintainers of battery equipment should be good enough for utilities, whose disconnecting needs are more modest and rarely utilized.

The quibble begins with the **location** question and the specific **type** of disconnect and often ends with redundant disconnects stacked at the utility meter with sometimes extended circuit runs to get there.

Given that a battery can exist anywhere in a premise the code recognizes that it is onerous to require a disconnect at a specific location. However, utilities insist on a disconnect at the meter, despite potential challenges. What is important is the accessibility of the disconnect, the ability to control the disconnect when equipment is being worked on, and for residential installations, the ability to deactivate systems out-of-doors by first responders. A placard or directory is posted at the service equipment demonstrating the location of the local energy supply disconnects.

The need to avoid costly out-and-back circuits and/or redundant disconnects was the primary rationale for an 'Initiation Device' appearing in both PV and battery codes (for rapid shutdown and emergency shutdown functions, respectively). For residential installations (the main topic here), the initiation device may not be required when the main system disconnect is accessible externally; but it is still an allowable avenue to provide first responders a reliable de-energizing device, if necessary.

Manufacturers produce these initiating devices and list them with their product recognizing it would be cheaper to run a signal cable to an external location than the battery circuit itself. It was the electrical code itself that prompted them to move in this direction. First responders — unlike utilities— do not have recourse to a higher voltage premise de-energization. Their use of (and the convenience of) the disconnect is more critical to life safety and their needs ought to be considered more stringent than that of a utility.

Recommendations

OSSIA would like to include this issue in Phase 2 of UM 2111. A first step might be to clarify the existing OAR disconnect requirements for utilities (which means updating OAR 860-039-0015 in particular). Batteries in Oregon are typically operating in self-consumption mode and



do not export to the grid. Given the existing export threshold (of 30A) impacts the existing requirement for PV disconnects, it should be clarified that a similar **export requirement** for disconnects applies for batteries. This remedy limits utility discretion on batteries that **export** less than 30A and thus limits the number of projects subject to the conflicting requirements described above.

It is recommended that the PUC re-evaluate the need for utility disconnect requirements as a subject requiring a separate authorization (especially at the residential level). The default position should be consistency with prevailing building and electrical codes. Utilities may be provided avenues to contest the standard disconnecting requirements but they should not be provided an exclusive authorization to create disconnect requirements that directly overlap with other codes. There is no reason utilities cannot follow the same codes and standards, and use the same disconnects as first responders. The PUC should investigate the frequency with which utilities have, in practice, operated the disconnects as a means to assess the relevance attached to these sensitivities.

Thank you for the opportunity to comment on the scope of Phase 2. We look forward to engaging with stakeholders to improve interconnection for all customers.

Respectfully,

A handwritten signature in black ink that reads "Angela Crowley-Koch". The signature is fluid and cursive.

Angela Crowley-Koch

Executive Director