

**BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON**

UM 1751

In the Matter of)	
)	
IMPLEMENTING ENERGY STORAGE)	COMMENTS OF SMALL BUSINESS
PROGRAM GUIDELINES PURSUANT)	UTILITY ADVOCATES ON DRAFT
TO HOUSE BILL 2193)	GUIDELINES
)	
)	
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Small Business Utility Advocates (“SBUA”) appreciates the opportunity to comment on implementing Oregon’s HB 2193 (2015) energy storage systems development bill. SBUA’s Petition to Intervene noted that SBUA intends to raise issues focusing on how the proposed Energy Storage project Guidelines, to be adopted by January 1, 2017, might impact small business.

Small business will likely play an important role in implementing this legislation in Oregon. Small businesses are often ratepayers subject to paying for this implementation so have a keen interest in seeing the costs are prudently incurred, particularly where energy storage may be an in an expensive stage of development. Also, small businesses could participate meaningfully in the the substantive work of the Guidelines including the procurement process. While it is difficult to identify the number of businesses that have direct interest in energy storage systems development, we do know that many Oregon businesses work in clean tech related industry and that Oregon is in the top ten states in the country on Grid Modernization.¹ Exhibit 1.

SBUA provides the following comments and utilizes an Oregon small business and SBUA member example to illustrate them:

1. Definitions:

The draft guidelines could be clearer in how they reference defined terms such as “energy systems”, defined in statute, “proposals”, and “projects”. The relation among these terms could be spelled out more clearly in a section preceding Guideline 1. The bill includes certain definitions:

“(2) Energy storage system” means a technology that is capable of retaining energy,

¹<http://cleandedge.com/reports/3rd-Annual-Grid-Modernization-Index> SBUA understands this publication to be well-regarded in the industry.

storing the energy for a period of time and delivering the energy after storage.

“(4) Qualifying energy storage system” means an energy storage system included in a project that the Public Utility Commission authorizes for development under section 3 of this “Project” includes one or more energy storage systems.

Definitions and references to terms should include components of energy storage systems such as an energy technology and a systems integration.

Example: Consider the example of SBUA member EiP. <http://eiptechnologies.com/what-is-eip/> Electronic Inertial Power™ (EiP™) technology with its low speed vertical axis wind turbine design provides useful energy directly from wind conditions near the urban rooftop.² EiP technology provides a network control interface that links together neighboring EiP wind machines, in combination with rooftop solar panels, to capture, store, and share renewable energy in the local urban setting. Using the patented EiP oscillation, excess energy and rotor inertia, under high speed electronic power control, recirculates between networked machines to create steady and reliable power. Locally networked groups become distributed generation stations that link up to provide 100% renewable power across the urban landscape and beyond. On a cloudy day with no wind, long term storage using hydrogen fuel cells can take over.

EiP wind machines can be linked together in a network. At speeds much greater than wind changes and power sags and surges, integrated network, not provided by EiP, but rather with a commercial partner-systems integrator controlled power electronics transparently exchange power between networked machines on a common grid connection. High speed electronic control exploits the natural large flywheel effect in each machine and parasitic oscillations of distributed generation as energy storage. This largely replaces the need for expensive, delicate, and toxic battery arrays. This technology features interoperability with wind and solar power and energy storage.

As the above description illustrates EiP could be an interested in an energy storage Request for Proposals or other competitive bidding opportunity (“RFP”), however, the EiP product is an energy technology and in and of itself requires system integration. Assuming such RFP is not a public project advertised on the State of Oregon procurement website ORPIN, the Guidelines should be sufficient to inform energy storage technology companies like this one or other companies working niches in the industry how they would be able to participate in the process.

² EiP won this year’s VERGE 2015 start-up Accelerate competition.

It would be helpful and even important for practical implementation of the bill to clarify other Guideline terms including the following:

“Comprehensive”: This is a large term that is all-encompassing, and should be defined to have a scope of meaning that is practicable and useful to ascertaining benefits of a technology plus systems integration.

“Public interest”: This term could reference specifics envisioned in the purpose of the statute. The Guidelines could articulate or define benefits, either as “public interest” or in the category identified in the legislation as “values reasonable related to energy storage system”. One such benefit would be the ability of the system to shore up emergency preparedness and assist in grid reliability during emergencies where power may be unavailable or unreliable.

Example: Technologies such as EiP’s might help meet very well energy storage needs in an emergency jeopardizing grid reliability. SBUA suggests that other agencies dealing with emergency management issues would have helpful comments on these draft Guidelines.

2. Procurement guidelines for energy storage:

Though the deadline for the procurement related comments is later and may be separated, SBUA offers them here as complement to other Draft Guidelines comments. As presented, the draft Guidelines’ requirements skew heavily toward larger companies, which creates the same context described above: smaller tech companies while developing and deploying kinds of technology that should be of interest to utilities and the Commission will be disfavored unless they can partner with system integrators. It is not in the public interest to burden the small business sector in this way and there are alternatives available to create a fairer playing field for smaller businesses by facilitating matching or separating out functions of energy storage systems technology and integration. Regarding procurement, frequently smaller companies focusing on technology development will not have ready access to perceive a good fit with a larger company or a company focusing on systems integration, yet if such match is recognized and appears to be in the best interest of the consumer, the Commission should be able to recognize this and suggest such a match.

Example: Commission staff could facilitate context where EiP technology would be matched with a systems integrator such as PECCI to provide energy storage and generation services for local municipality.

Alternatively, the procurement aspect of the draft guidelines could identify components and enable technology providers and systems integrators to be recognized early in the process for matching.

Example: EiP technology provides a Project write up leaving a systems integration (“SI”) open though including in project where the SI entity would fit.

3. Geography:

Even though the statute in Section 3(2)(c)(A)(ii) and Draft Guideline 1(b) include identifying location of a project, it would be useful to be more specific on geography in the Guidelines identifying which aspects of geography are of interest. Examples include resource zones (best solar, wind, etc. areas), load zones such as those areas with a certain amount of load but historically disadvantaged, perhaps indicated by historically underutilized business (“HUB”) status, to support equitably serving electric load with locally available storage, and also the geography of available transmission and distribution.

Example: EiP based on coast has developed technology adaptable to high winds, and may be easily adapted/scalable to a coastal HUB zone, and does not rely on transmission from east of coast range to transmit electricity.

4. Data collection: Data collection is key to successful learning results of this pilot. Perhaps the draft Guidelines could be somewhat more informative on the data to be collected by identifying some common data points sought and a few common research objectives, without limiting collection of other data and objectives.

5. Automatic adjustment clause consistency:

Perhaps an obvious point, SBUA points out that the Guidelines should be consistent with the specific reference to energy storage and the automatic adjustment clause provision in SB 1547 Section 11 and the utility/electric company should include the anticipated impact on the adjustment clause provision. Testimony of SBUA in SB 1547 proceedings did raise the issue of concern over fair apportionment of rate increases. Perhaps the Guidelines could also include a question of which customer class or classes a given energy storage proposal would likely impact if implemented.

This concludes SBUA comments on the HB 2193 Energy Storage Draft Guidelines. We are available for questions or more information.

RESPECTFULLY SUBMITTED September 16, 2016.



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3RD ANNUAL GRID MODERNIZATION INDEX OVERALL RESULTS



RANK +/-	STATE	LEADERSHIP SCORE
1	California	87.8
2	Illinois	81.3
3	Texas	77.0
4	Maryland	67.0
5	Delaware	60.0
6	Washington, DC	59.0
7	Oregon	52.3
8	Arizona	52.0
8	Pennsylvania	52.0
10	Georgia	49.8
11	North Carolina	48.8
12	Hawaii	47.5
13	Vermont	47.3
14	Nevada	41.8
15	Michigan	41.5
16	New York	41.3
17	Florida	36.3
18	Minnesota	34.8
18	Oklahoma	34.8
20	Massachusetts	34.5
21	Maine	32.3
22	Missouri	31.0
23	Virginia	29.5
24	Indiana	28.8
25	Ohio	26.5
26	New Jersey	26.3
27	Alabama	25.5
28	New Hampshire	24.8
29	Washington	23.8
30	Arkansas	23.3
31	Connecticut	22.8
32	Louisiana	21.5
33	South Carolina	20.8
34	Colorado	19.0
34	Idaho	19.0
36	Kansas	18.8
37	West Virginia	18.5
38	Utah	17.3
39	Wyoming	16.0
40	Wisconsin	15.0
41	New Mexico	14.6
42	South Dakota	14.0
43	Mississippi	13.8
44	Kentucky	12.8
44	Tennessee	12.8
46	Iowa	12.3
47	Alaska	12.0
48	Montana	10.0
48	Rhode Island	10.0
50	Nebraska	8.3
51	North Dakota	3.3

Source: GridWise Alliance and Clean Edge
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STATE SUPPORT TOP 10 STATES: PERFORMANCE IN SELECT INDICATORS



- Grid Modernization Policy/Strategy
- RPS/EES/CO2 Emissions Goals
- Consumer Education/Outreach
- Grid Modernization Metrics
- Incentives/Mandates: EVs
- Incentives/Mandates: Energy Storage
- Incentives/Mandates: Renewable DG

NOTE: Dials represent state scores on a 1-5 scale for each of seven select indicators or indicator groups. These indicators represent 50% of the weighted points available in the State Support category. Each tick mark represents one point on that 1-5 scale.

Source: GridWise Alliance and Clean Edge

