EXH. GA-4 DOCKETS UE-240004/UG-240005 2024 PSE GENERAL RATE CASE WITNESS: GILBERT ARCHULETA

# BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION,

Complainant,

v.

**PUGET SOUND ENERGY,** 

Respondent.

**Docket UE-240004 Docket UG-240005** 

# THIRD EXHIBIT (NONCONFIDENTIAL) TO THE PREFILED DIRECT TESTIMONY OF

**GILBERT ARCHULETA** 

ON BEHALF OF PUGET SOUND ENERGY



May 14, 2021

Subject: Puget Sound Energy

Clean Energy Strategy

Distributed Energy Resources Request for Information

#### Dear Potential Respondent:

Puget Sound Energy, Inc. (PSE) is soliciting written responses for distributed energy resources (DERs), in alignment with the 2021 Integrated Resource Plan (IRP) filed on April 1, 2021. This Request for Information (RFI) is sponsored by the Clean Energy Strategy (CES) group at PSE.

You may provide an RFI response for more than one topic. Each written response should be separately submitted with all response components clearly labeled with your company name and the product, service or resource being proposed.

Electronic responses must be received by no later than 5:00 PM Pacific Time, **June 30, 2021** to DERRFPmailbox@pse.com.

All communication regarding this RFI should be directed to <a href="mailto:DERRFPmailbox@pse.com">DERRFPmailbox@pse.com</a>.

Sincerely,

/s/Therese Miranda-Blackney

Therese Miranda-Blackney Manager – Distributed Energy Resources Clean Energy Strategy - Puget Sound Energy

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#### I. REQUEST FOR INFORMATION

Puget Sound Energy's ("PSE") Clean Energy Strategy ("CES") group is requesting information from interested parties experienced in **distributed energy resources** ("DERs"), including aggregated demand response ("DR"), energy storage systems ("ESS") and small-scale generation, and standalone distribution interconnected ESS and generation. The purpose of this Request for Information ("RFI") is to solicit information on new and innovative DERs that could be incorporated into PSE's energy portfolio. It is not required that responses include customer-facing programs. This RFI is issued solely for planning purposes, to assess potential vendor interest in, and potential type, scale, and content of products, services and resources to inform a future Request for Proposals ("RFP"). The draft DER RFP, which will include DR, will be filed with the Washington Utilities and Transportation Commission ("WUTC") by November 15, 2021, and the final DER RFP is anticipated to be issued to potential bidders in February 2022.

Washington's new Clean Energy Transformation Act ("CETA") sets a trajectory for electric utilities, including PSE, to be carbon neutral by 2030 and using 100% clean energy by 2045. PSE's 2021 Integrated Resource Plan ("IRP") modeling shows DERs as a growing part of PSE's electricity resource portfolio to "achieve targets at the lowest reasonable cost", per CETA requirements<sup>1</sup>. PSE anticipates that in addition to new large-scale resources, a diversified portfolio of DERs, including distributed renewable generation, distributed ESS (which includes batteries and non-battery energy storage systems), and flexible DR resources will be necessary, at scale, to effectively execute its approach. Table 1 below shows the 2021 IRP's estimated generic DER additions by type. Responses to this RFI are not limited to these categories and PSE expects the responses to this RFI will inform the technologies and magnitude of DERs acquired to contribute to the 2030 and 2045 CETA milestones.

Table 1	PSF's 2021 IRE	P Incremental Resource	Additions through 2045
Table 1.	1 0 4 3 4 0 2 1 11 11	indicination and a	Additions through 2040

Resource Additions (MW)	2022-2025	2026-2030	2031-2045	Total
Distributed Energy Resources				
Demand-side Resources	256 MW	360 MW	1,168 MW	1,784 MW
Battery Energy Storage	25 MW	150 MW	275 MW	450 MW
Solar - ground and rooftop	80 MW	150 MW	450 MW	680 MW
Demand Response	29 MW	154 MW	34 MW	217 MW
DSP Non-Wire Alternatives	22 MW	24 MW	72 MW	118 MW
Total DERs	412 MW	838 MW	1,999 MW	3,249 MW
Renewable Resources				
Wind	400	1,000	1,850	3,250
Solar	-	400	297	696
Biomass	-	-	105	105
Renewable + Storage hybrid	-	-	375	375
Total Renewable Resources	400 MW	1,400 MW	2,627 MW	4,426 MW
Flexible Capacity	-	255 MW	711 MW	966 MW

<sup>\*</sup>Please note: this RFI should not be considered a solicitation for quotation or a request for proposals, PSE intends to file a draft DER RFP with the WUTC on 11/15/2021. Further, PSE maintains no obligation to reimburse respondents for any costs incurred in association with this RFI.



## A. Key Considerations for Respondents

- a. Products, services or resources must result in DERs that contribute energy and/or capacity, and are located on PSE's distribution system (i.e. downstream of the substation at a voltage of 35 kV or below). PSE considers behind-the-meter ("BTM") resources, including DR, to be located on the distribution system for the purposes of this RFI.
- **b.** Prospective respondents are not required to respond to this RFI in order to participate in any future RFP process. PSE, in its sole judgement, will determine with whom to engage in further discussion and/or request a proposal through a standard RFP process.
- **c.** Any products, services, or resources included in responses to this RFI should be available for operation starting between Q3 2022 Q4 2023.
- **d.** PSE is under no obligation to select any provided response or move forward with any proposed product, service or resource.
- e. Confidentiality, Ownership and Use of Information Your response to this RFI will become the property of PSE upon its receipt, and PSE may share this information as part of its internal evaluation system, including with regulatory stakeholders. Information will not be shared with other vendors. It is recommended that you do not include any information in your response that your company claims to be proprietary or confidential without the prior written agreement of PSE. Information submitted through this RFI could be used to assist PSE in preparing an RFP.
- f. PSE values diversity, equity, and inclusion in all areas of practice, including procurement and product, service and resource implementation. Black, indigenous, people of color, immigrant, women, LGBTQ and veteran led businesses and/or vendors that maintain strong relationships with the diverse communities of PSE's service area are encouraged to respond.

# B. Critical Requirements, Anticipated Use Cases and Additional Considerations

PSE expects future DERs deployed on its system will meet PSE's Critical Requirements, and will be aligned with PSE's Anticipated Use Cases and Additional Considerations. PSE's Critical Requirements, as well as Anticipated Use Cases and Additional Considerations, are explained below.

# **a.** Critical Requirements

All submitted products, services or resources must:

- 1. Be able to be located on PSE's distribution system
- 2. Provide aggregated amounts of DR, ESS or small-scale generation, OR be a distribution system interconnected energy storage or generation resource
- 3. For generation resources, be renewable or non-emitting under CETA definitions (RCW 19.405.020)
- 4. For aggregated resources, have a total nameplate capacity of at least 100 kW AC



For standalone resources, have a nameplate capacity between 100 kW AC and 20 MW AC

# b. Anticipated Use Cases

Proposed products, services and resources should highlight how the respondent's product, service or resource would meet one or more of the following primary use cases:

- 1. Generation (CETA-eligible MWh)
- 2. Capacity (MW through energy provision or demand reduction) during peak hours with day-ahead or hour-ahead notification<sup>2</sup> <sup>3</sup>
  - a. Heavy load: November-March hour ending 0700-2200
  - b. Super peak: November-January hour ending 0700-1000 and hour ending 1800-2100

PSE is also interested in learning more about how the respondent's product, service or resource may meet one or more of the following secondary use cases:

- 3. Intra-hour capacity dispatch4
- 4. Frequency support/response
- 5. Voltage control
- Load flexibility to change customer load shapes to achieve daily peak reduction, renewables integration, carbon emissions reduction, response to market price signals, or another goal<sup>5</sup>
- 7. Localized capacity (at or below the substation level)<sup>6 7</sup>
- 8. Summer peak capacity8
  - a. Heavy load: July-August hour ending 1600-1900
- Resiliency<sup>9</sup>
- 10. Reliability<sup>9</sup>
- 11. Other(s) as described by respondents

<sup>&</sup>lt;sup>2</sup> See PSE 2021 IRP Chapter 7, Figures 7-17 through 7-21 for peak capacity credits by resource type

<sup>&</sup>lt;sup>3</sup> PSE's 2021 IRP <u>Appendix G</u> calculated a \$15.15/kW-year negative cost item in the resource value for distributed battery energy storage, demand response and demand-side resources for transmission and distribution deferral (see page G-33)

<sup>&</sup>lt;sup>4</sup> See PSE 2021 IRP <u>Chapter 5</u> Pages 5-33 – 5-34: Flexibility Considerations

<sup>&</sup>lt;sup>5</sup> See PSE 2021 IRP Appendix G for a description of sub-hour modeling

<sup>&</sup>lt;sup>6</sup> See All-Source RFP <u>Exhibit I. Energy Storage System Location Study</u> for information on locations with lower risk of network upgrade costs for interconnection of ESS

<sup>&</sup>lt;sup>7</sup> PSE has identified several areas as potential candidates for future Non-Wires Alternatives ("NWAs") projects in Appendix M of the 2021 IRP, summarized in tables M-14 and M-20

<sup>8</sup> See PSE 2021 IRP <u>Chapter 7</u>: page 7-19 for Loss of Load summer events; page 7-30 for Storage Capacity Credits and summer peaking events; and pages 7-44 – 7-48 for Temperature Sensitivity Analysis.
9 See PSE 2021 IRP <u>Chapter 2 Page 22</u>



#### c. Additional Considerations

PSE is also interested in how respondents address the following additional considerations:

- 1. Diversity, Equity and Inclusion:
  - a. Inclusive marketing,
  - Direct benefit to highly impacted, hard-to-reach and vulnerable communities to contribute to PSE's adherence to CETA's mandate to "ensure that all customers are benefiting from the transition to clean energy"<sup>10</sup>
  - c. Addresses an existing barrier to expand participation in DERs
- 2. Data privacy and IT security
- 3. Ability to scale

#### C. Solicitation Timeline

Per the WUTC's Order 05 in Docket UE-200413, PSE will release a DER RFP, informed by the responses to this RFI, on the timeline below. Feedback on the contents and structure of the draft RFI can be submitted to the WUTC between April 1 and April 30 through its <a href="website">website</a> in Docket UE-200413.

Activity	Target Completion Dates
RFI Filed with the WUTC as Informational Filing Open for Comment	April 1, 2021
Comment Period on RFI	April 30, 2021
Issuance of RFI	May 14, 2021
Written Responses to RFI Due	June 30, 2021
Draft DER RFP Filed with WUTC	November 15, 2021
Issuance of Final DER RFP (if approved by WUTC)	TBD – Estimated in February 2022

PSE is also in the process of acquiring a Virtual Power Plant ("VPP") platform, which will also inform the future DER RFP. The VPP RFP is expected to be released on August 1, 2021, with responses expected to be due at the end of August 2021. The products, services and resources proposed through this RFI may inform the VPP RFP.

PSE expects the shortlist for the All-Source RFP and DER RFP to align in Q2 2022 to enable concurrent evaluation of bids to both RFPs. Although the targeted solicitation for distributed energy resources will remain separate from the solicitation for all resources, PSE will work collaboratively with Staff and the independent evaluator to determine potential approaches to comparing resources considered in the two solicitations while maintaining the integrity of the two processes.

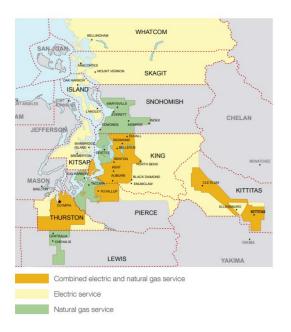


# D. About Puget Sound Energy

Headquartered in Bellevue, Puget Sound Energy is proud to serve our neighbors and communities in 10 Washington counties. PSE is the state's largest utility, supporting 1.1 million electric customers and nearly 900,000 natural gas customers. PSE's mission today is deep decarbonization and greenhouse gas ("GHG") emissions reduction. PSE was an early leader in addressing climate change, investing billions in renewable resources and energy efficiency for homes and business.

#### a. Service Area

- 1. 6,000+ square miles, primarily in Puget Sound region of Western Washington
- 2. Population of approximately 4 million within the service area
- 3. Counties within the service area:
  - a. Island (electric)
  - b. King (combined)
  - c. Kitsap (electric)
  - d. Kittitas (combined)
  - e. Lewis (natural gas)
  - f. Pierce (combined)
  - g. Skagit (electric)
  - h. Snohomish (natural gas)
  - i. Thurston (combined)
  - j. Whatcom (electric)
  - k. Whidbey Island (electric)



## **b.** PSE Customer Experience Intent Statement

PSE places high value on our interface with and commitment to our customers. The following statement reflects the experience we want to provide to our customers. PSE expects vendors to embody this statement.

In every interaction with PSE, I know I am dealing with honest and caring people who understand me, anticipate my needs and make doing business easy. I can trust they will be fair and do the right thing.

If there's a problem, they respond quickly and work until it is resolved to my satisfaction. Their information, products and services provide value and benefit, are reliable and keep me safe.

They are committed to help me control my energy cost and to be a responsible steward of the energy I consume.



#### II. RESPONSE INSTRUCTIONS

## A. Format

Responses are required to adhere to the specific format set forth below. Reponses that do not follow the requested format will increase the time required to review, and may be discarded.

#### **B.** Questions

Feedback on the RFI structure and content can be made during the comment period in April, as stated in Section I.C. After the RFI is issued, a formal question and answer period will not be offered. PSE may ask respondents follow-up questions upon receipt of any written responses for clarity regarding the products, services or resources offered. These questions and answers will not be made public to all respondents.

PSE anticipates a formal question and answer period during the DER RFP process that follows this RFI.

## C. Submitting RFI Responses

Responses should be submitted by email to <a href="mailto:DERRFPmailbox@pse.com">DERRFPmailbox@pse.com</a> no later than 5 p.m. PDT on June 30, 2021.

- 1. Information should be presented as three attachments in Word, PDF or Excel formats. Files over 10MB or in .zip format will not be accepted due to server restrictions.
  - a. Attachment 1: RFI Response (required)
  - b. Attachment 2: Load / Generation Profiles (required)
  - c. Attachment 3: Additional Information (optional)
- 2. The response email must use the following subject line naming convention:
  - a. PSE DER RFI [Company Name]
  - b. Example: PSE DER RFI Distributed Resources Inc.
- 3. PSE will confirm receipt of responses via an autoreply. If an Autoreply is not received, please email anne.marshall@pse.com to confirm receipt.

## D. Response Template

In order to facilitate PSE's review of the submitted products, services and resources, respondents are required to provide responses in the following format:

- 1. Attachment 1: RFI Response (required)
  - a. Part 1: Cover Letter (required)
  - b. Part 2: Product, Service or Resource Summary (required)
  - c. Part 3: Performance History (required)
  - d. Part 4: Term Sheet Feedback (optional)
  - e. Part 5: IRP DER Modeling Assumptions Feedback (optional)
- 2. Attachment 2: Load / Generation Profiles (required)
- 3. Attachment 3: Additional Information (optional)



# a. EMAIL ATTACHMENT 1: RFI Response (Required)

# Part 1 - Cover Letter (required)

Please copy and paste the following template, and insert the requested information. You may provide an RFI response for more than one product, service or resource. Each written response should be separately submitted with all components clearly labeled with your company name and the product, service or resource being proposed. Limit 2 pages.

sei	service or resource being proposed. Limit 2 pages.			
1.	Company Name			
2.	For any future contacts related to this RFI or potential RFPs resulting from this RFI please provide the following information:  Primary Contact  Title  Email  Phone  City/State			
3.	Response relates to the following Aggregated Demand Response Energy Storage Small-scale generation - Generation type: Standalone distribution system interconnected resource – resource type: Customer-facing product/service/resource? Yes No			
4.	Use cases provided by product, service or resource (Section I.B.b)  Primary Secondary Generation			
5.	<ul> <li>Company background:</li> <li>a. Please provide a brief general overview of your firm: size, location(s), operations overview, etc.</li> <li>b. Experience of respondent's company and key staff with technology, development, operations and maintenance</li> <li>c. Number of employees</li> <li>d. Number of years in business</li> </ul>			

- d. Number of years in business
- e. Product, service or resource status (conceptual, design concept complete, design complete, in development, operational, etc.)



#### Supplier Commitment to Diversity, Equity and Inclusion

PSE values diversity, equity, and inclusion ("DEI"), and puts these values into practice through its Supplier Diversity process designed to: achieve best value in contracting, provide fair and equitable opportunity to contract with PSE, and strengthen our diverse communities by leveraging local businesses.

- 6. Diversity, Equity and Inclusion
  - Has the vendor utilized diverse businesses, including (but not limited to), women-, minority-, disabled-, and veteran-owned businesses in the past? If yes, provide summary description.
  - b. Does the vendor intend to or will seek out and utilize diverse businesses, including (but not limited to), women-, minority-, disabled-, and veteran-owned businesses for the proposed product, service or resource? If yes, provide summary description.
  - c. Does the vendor intend to comply with the labor standards in RCW 82.08.962 and 82.12.962? If yes, provide summary description.
  - d. Does the vendor offer diversity training for its employees?
  - e. Does the vendor have a written diversity commitment, policy or plan? If yes, provide summary description.
  - f. Does the vendor participate in any programs that offer apprenticeship or workforce development specifically to minorities and/or women? If yes, provide summary description.

#### Part 2 – Product, Service or Resource Summary (required)

Respond in less than 20 pages. Be specific, avoid broad general statements. Provide specific information regarding your proposed product/service/resource, and how it aligns with PSE's Critical Requirements, Anticipated Use Cases and Additional Considerations. It is essential that the response is thorough yet concise, and avoids broad, unenforceable, or unmeasurable content. Please use the format and titles outlined below as PSE will use this format to evaluate responses. Questions that are not applicable to your product, service or resource should be marked as Not Applicable (N/A). PSE understands that all respondents may not have answers to all questions at this time; questions that do not yet have a known answer for your product, service or resource should be marked as To Be Determined (TBD).



Re	equest / Question	Answer / Statement
2.	1 Describe the Product, Service or Resource	
1.	Please provide a general overview of your product, service, or resource.	
2.	Describe the opportunities in PSE's service area, specific technologies or methods, and why this is the right time to deploy this product/service/resource.	
3.	Describe the inter-relation between the anticipated use cases (Section I.B.b) that will be implemented with this product/service/resource.	
4.	Targeted customer segment(s)	
5.	Describe any potential barriers to implementation.	
6.	Describe any dependencies and assumptions, including data availability, IT integrations, customer information sharing, etc., that would need to be met to deliver the product, service or resource.	
7.	For generation and ESS products/services/ resources, will the technology be IEEE 1547.2018 certified? Provide details as needed.	
8.	For standalone resources	
	a. Project site details, if known, or desired site characteristics if site is not known	
	b. One-line diagram (if available)	
9.	PSE anticipates operational needs will change with evolving information technologies and generation resources, please describe how your product, service or resource provides operational flexibility and the ability to adapt to changing needs.	
10	. How does your product, service, or resource contribute to GHG emissions reductions, and how do you propose to measure GHG emissions reductions?	
11	Please describe any risks (i.e. fire, chemical, IT security, data privacy, etc.) your product/service/resource presents to the public and to PSE, and how they are mitigated.	



Req	uest / Question	Answer / Statement
1	How are equity and customer benefits incorporated in your product, service, or resource? Examples of customer benefits include equitable distribution of energy and non-energy benefits, impact to vulnerable populations <sup>11</sup> and highly impacted communities <sup>12</sup> , cost and risk reduction, job creation, public health, environmental, energy security and resiliency, etc.	
2.2	Delivery Structure	
1. 1	Deployment timeline and term	
	Ownership structure for equipment and devices (i.e. customer, PSE, vendor, etc.)	
	Describe the operations & maintenance activities that are required, and delivery options.	
4. I	For DR programs	
	<ul> <li>Response time (day-ahead, hour-ahead, intra-hour, etc.)</li> </ul>	
	b. Availability: What months, hours, and/or days (weekday, weekend, holidays) is the resource available to be called?	
	c. Maximum calls per season	
	d. Maximum event duration	
	e. Dispatch optimization approach	
	f. Any other key operational parameters	
5. I	For ESS programs	
a	a. Availability of resource and response time	
ŀ	<ul> <li>Availability to provide peak capacity (nameplate vs. actual)</li> </ul>	
	c. Cycling or depth of discharge limitations	
(	d. Maximum event duration	
(	e. Dispatch optimization approach	
f	Will the ESS export power to the grid, or be non- exporting and only serve BTM customer loads?	
(	g. Any other key operational parameters	

<sup>&</sup>lt;sup>11</sup> Per RCW 19.405.020 (40) "Vulnerable populations" means communities that experience a disproportionate cumulative risk from environmental burdens due to: (a) Adverse socioeconomic factors, including unemployment, high housing and transportation costs relative to income, access to food and health care, and linguist isolation; and (b) Sensitivity factors, such as low birth weight and higher rates of hospitalization.

12 https://www.doh.wa.gov/DataandStatisticalReports/WashingtonTrackingNetworkWTN/ClimateProjections/Clean

EnergyTransformationAct



Req	ue	est / Question	Answer / Statement
6. F	- O	r variable generation resources	
а	ì.	Typical uptime commitments	
b	).	Are you willing to provide secondary use cases such as frequency response by operating below maximum output to allow for up and down regulation, or by allowing PSE to periodically curtail production? Provide details as needed.	
7. F	OI	r customer-facing products/services/resources	
а	ì.	Customer relationship management	
b	).	Marketing strategy	
С	<b>)</b> .	PSE and vendor roles	
d	d.	Data privacy and security	
8. F	OI	r aggregated resources	
а	ì.	Billing structure	
b	).	Provide information on how the product, service, or resource can be scaled up, such as lead time on adding new capacity, limiting factors, economies of scale and fixed upfront costs.	
С	<b>)</b> .	Aggregation, Dispatch & Coordination Model	
d	i.	Which virtual power plant (VPP) and/or Distributed Energy Resource Management Systems (DERMS) have you completed integrations with, or is your product/service/resource compatible with?	
e. Communications standards supported (i.e. HTTPS, IEC-61850, DNP 3.0, Modbus TCP, OpenADR 2.0 etc.)			
f.		What is the level of visibility and controllability (e.g. geographic granularity, available capacity refresh rate, etc.) of your product, service or resource?	
9. I	Τi	integration and security	
а	ì.	Data management (including real-time data)	
b	b. IT security		
С	<b>)</b> .	Software platform used	
		1. Does the vendor have a SOC2 Type II audit report for the proposed solution and its operating environment issued within the past 12 months?	
		<ol><li>Is the software platform located on-premise, hosted, or a hybrid? Provide details as needed.</li></ol>	
		3. Does the vendor provide US-only hosting options?	



Re	Request / Question			Answer / Statement
			vendor support encryption of data in g SSH or TLS1.2 or later?	
			endor support encryption of data at rest 56 or better?	
		6. Does the ve	endor support SAML2.0 for single sign	
		7. Are there or details as n	n-going software related costs? Provide eeded	
		8. Please spec	cify the cloud provider.	
2.3	3 Pri	cing Structure		
1.			r recommended pricing structure. Are v fixed, variable or not applicable?	
	a.	Energy costs		
	b.	Capacity costs		
	c. Availability payments			
	d. Performance payments			
	e. Customer incentives			
	f. Customer participation costs			
	g.	Customer enroll	ment costs	
	h.	Start-up costs		
	i.	Other (please de	escribe)	
2.	Coi	tract term		
	a.	What duration verm?	would you recommend for a contract	
	b.	Should contracts for what term?	s include an option for extension? If so,	
	C.	Are there any ar	nticipated end-of-life equipment costs?	
3.	Ho	would economic	es of scale impact pricing?	
	a.		num scale of implementation that you nd to maximize cost-effectiveness?	



#### Part 3 – Performance History (required)

Fill in table for up to 3 existing deployments that demonstrate your relevant experience in delivering the product, service or resource.

Re	quest / Question	Answer / Statement
3.1	Performance History	
1.	Description of overall concept	
2.	Utility and project location	
3.	Size (MW and/or MWh)	
	a. If applicable, number of enrolled customers	
4.	Key performance metrics, including any indicators of customer benefit	
5.	IT integration experience	
	a. Software platforms used	
	b. Utility VPP/DERMs platform integrated with	
	c. Experience integrating with utility's SCADA system	
6.	Timeline from concept to deployment	
7.	Customer acquisition strategy and relationship management (if applicable)	
8.	Describe the pricing structure	
9.	Describe the actions taken to incorporate DEI in the product, service or resource (may include sourcing, staffing, design, contracting, marketing, etc.)	

#### Part 4 – Term Sheet Feedback (optional)

Provide any feedback on Exhibit A: Prototype Clean Energy PPA Term Sheet and its applicability to your product, service, or resource. Please limit written feedback to 1 page. Optionally, you may also submit a redline of proposed edits to the Term Sheet. This is for informational purposes only.

## Part 5 – IRP DER Modeling Assumptions Feedback (optional)

Provide any feedback on assumptions used in the IRP to model DERs. This feedback will inform future DER modeling. Please note that the peak capacity credit of a resource is unique to each utility. Since it is unique to each utility and dependent on load shapes and supply availability, it is hard to compare PSE's peak capacity numbers with other entities. Some of the values are higher and some are lower, depending on PSE's needs, demand shapes, and availability of the supply-side resource. Distributed solar assumptions can be found in <a href="Appendix D">Appendix D</a>, pages D – 73-80, and DR assumptions can be found in <a href="Appendix E">Appendix E</a>, tables 38, 40, 42, 44, 46, 48, 50, and 52.



# b. EMAIL ATTACHMENT 2: Load / Generation Profiles (Required)

Please provide your product's, service's or resource's expected load and/or generation profiles.

- 1. For generation products/services/resources: provide an 8760 generation profile in Excel.
- 2. For capacity and other use case products/services/resources: provide a 24-hour profile for an event day showing the dispatch shape for each use case in Excel.

# c. EMAIL ATTACHMENT 3: Additional Information (Optional)

This is an optional opportunity to attach a company overview, staff qualifications, case studies, product details, awards, testimonials, etc.

Please also include any information that was not explicitly asked for in Attachments 1 or 2 that is important to your product, service or resource.

Additional Information may only be reviewed in the event that PSE determines that the proposed concept is feasible and may inform an RFP. Additional Information must be attached as one file in Word, PDF or Excel format.

Reminder that PSE email system will not accept emails greater than 10MB and that the system will not accommodate .zip files.