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Sent: Saturday, December 28, 2019 12:22 PM
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Subject: Unaddressed November 2019 TAG technical inputs

Hi Irena,

Thanks for posting the PSE responses to the eighteen November 2019 TAG letters on the PSE website. Unfortunately, there were several questions that were not answered. In some cases the answers provided are themselves subject to additional questions.

Could PSE provide answers to these unanswered questions and the related additional questions, and post them on your website?

The list of unanswered and related additional questions is shown in the table below, containing the original letter number / topic / author, specific unanswered or related additional questions and notes which clarify the question or specify concerns with PSE's original answer.

This follow-up letter is provided in recognition of TAG member continued support to the PSE TAG charter of "providing recommendations to PSE".

Kevin Jones

Vashon Climate Action Group board member
Puget Sound Energy Technical Advisory Group member
BSEE- University of Washington
PSE Customer

Letter number / Topic / Author	Unanswered or related additional question	Notes
#3 / IRP must address Listening Session comments / Kevin Jones	1) Rephrased: Which of the Listening Session inputs in the original letter did PSE incorporate in the Nov 15, 2019 progress report? 2) Which of the Listening Session inputs does PSE intend to incorporate in the 2021 IRP	Notes relative to the questions: 1) In response to the TAG letter on public participation from Kate Maracas, PSE said "PSE plans to use the … "involve" IAP2 guidelines in the development of the 2021 IRP stakeholder process". The Involve level "provides feedback on how public input influenced the

		decision". The Listening Session was an important event with significant public input. We ask PSE to start the "Involve" practice now by clarifying which of the 35 Listening Session recommendations were incorporated in their IRP process in time to influence the November 15, 2019 Progress Report. Note: "many" is not an adequate answer. 2) PSE did not answer the question, instead introducing information about rulemaking and an undefined 2021 IRP work plan. The question asks which of the 35 Listening Session recommendations the TAG identified as relevant to the IRP process does PSE intend to incorporate in the next IRP. The TAG again asks PSE to answer the question. Given the PSE commitment to "sharing a written response to the recommendations shared by participants during the IRPAG listening session… on or before December 31, 2019" it should not be difficult for PSE to identify which of the Listening Session recommendations they intend to incorporate into the next IRP.
#5 / Use High Impact Social Cost of Carbon value / Kevin Jones	Related additional question: Explain how your proffered "sensitivity that is more constrained such that only renewable and non-emitting resources are included in PSE's energy supply portfolio after 2030" could be considered an appropriate alternative to the requested sensitivity using the High Impact Social Cost of Carbon value.	Notes relative to the question: A sensitivity which contains no fossil fuel resources after 2030 is a completely different analysis than the requested sensitivity using a High Impact Social Cost of Carbon value. In the requested sensitivity, the carbon emissions are based on "modeling the PSE portfolio" (your definition of a sensitivity, ref IRP_TAG_Meeting_2_Notes_Final, page 3). The proffered sensitivity does not represent the PSE portfolio. The proffered sensitivity will produce zero greenhouse gas emissions after 2030, which has no relationship to an analysis using the High Impact social cost of carbon in an IRP sensitivity analysis of the PSE portfolio.
#7 / 2019 IRP Data Request / Kevin Jones	This letter makes eight specific data requests necessary for the TAG to continue the IRP technical assessment process. Some of these requests were answered but several were denied or deferred. Of the eight original requests, the TAG reiterates these two requests for 2019 IRP data: 1) The results of the 2019 IRP sensitivity analysis which includes no new fossil fuels beyond 2030. 2) The average cost of wind, solar, battery storage and pumped hydro systems in bids received by PSE **(not individual bids**).	Notes relative to the questions: 1) PSE rationale for not providing this data is UTC Order 2 and the statement that PSE has not been able to complete all the 2019 IRP analyses. This rationale does not seem credible since UTC Order 2 was confirmed on Nov 7, only nineteen days prior to the scheduled Draft IRP release on Nov 26 per the revised UTC Order 1 PSE IRP Work Plan. 2) PSE rationale to not provide this data is asserted by two statements: a. Statements about the resource acquisition decision process, which have no bearing on TAG needs to understand the underlying IRP analysis parameters, and

		b. Data confidentiality. The TAG understands the data confidentiality issue, which is why we are not asking for individual bids that would reveal data received by PSE in confidence. The TAG is asking for average (or anonymized) cost data.
#8 / Upstream Gas Assumptions in PSE 2019 IRP / Rob Briggs	What is PSE assuming for upstream methane leakage rate as a percentage of methane delivered?	Notes relative to the question: PSE responded to this question with a discussion of the Global Warming Potential for methane. PSE did not provide a value for upstream methane leakage rate as a percentage of methane delivered. Please answer the specific question. Please do not direct us to your 2019 IRP Progress Report – which contains methane leakage numbers in a form that aggregates several parameters making it impossible to compare your upstream methane leakage rates with rates reported in the scientific literature.
#17 / IRP analyses should meet state CO2 reduction goals / Doug Howell	We ask that PSE reconsider the TAG request to respond to these questions – see notes for clarification: 1) Has PSE identified their carbon emission reduction requirements needed to comply with Washington State carbon emission reduction goals and timelines? 2) What carbon emission reduction derived requirements apply to the PSE electricity business? 3) What carbon emission reduction derived requirements apply to the PSE gas business? 4) Will PSE strive to accelerate their compliance with the Clean Energy Transformation Plan? 5) Is PSE willing to commit to a stretch goal date to achieve 100% carbon free electricity? 6) If yes, when will PSE publish this stretch goal date? 7) If yes, will PSE constrain its electric IRP to achieve this stretch goal date? 8) Will PSE constrain its gas IRP to stay within Washington State carbon emission reduction goals? 9) Will PSE publish a gas IRP carbon emission reduction curve, showing its gas business contribution to Washington state carbon emission reduction goals and timelines? 10) Will PSE publish a gas IRP carbon emission reduction curve, showing the date and carbon reduction path to transition its gas business to 100% carbon	Notes relative to the questions: The PSE response "at this time, we don't have detailed answers" to these questions suggests that PSE acquisition decisions are made independently of state CO2 reduction goals. Now that "the legislature declares that utilities in the state have an important role to play in this (*clean energy*) transition", it is appropriate that PSE provide answers to these questions. The numbered items below correspond to the original questions and provide amplifying information to allow answers to be provided. <u>If it is not possible to answer these questions at this time, would PSE identify when these answers will be available or provide your rationale explaining why it is not appropriate to provide these answers</u>? 1) Washington state has had carbon emission reduction goals and timelines for some time now. Has PSE identified the requirements they would need to meet, in terms of resource changes, to comply with state goals? This is a yes or no question, although it would be helpful to understand if PSE intends to identify these requirements. This question is independent of CETA. 2) Given state carbon reduction goals, this question is asking how much carbon reduction PSE would allocate to their electricity business. This question is independent of CETA. 3) Given state carbon reduction goals, this question is asking how much carbon reduction PSE would allocate to their gas business. This question is independent of CETA. 4) This is a yes/no procedural question, asking if PSE is inclined ("will strive") to meet CETA requirements before their

	free?	mandated compliance dates. 5) This is a yes/no procedural question, asking if PSE is inclined ("willing to commit") to achieving 100% carbon free electricity prior to CETA mandated compliance dates. 6) This is a procedural / scheduling question. 7) This is a procedural question, to clarify how the electricity IRP process could support a PSE objective to meet a 100% carbon free electricity date. 8) This is a procedural question, to clarify how the gas IRP process could support a PSE objective to meet state carbon emission reduction goals and timelines. This question is independent of CETA. 9) This is an IRP process question that is independent of CETA. 10) This is an IRP process question that is independent of CETA.
#19 / Building efficiency improvement expectations for IRP analyses / Court Olson	The original letter identifies ten specific recommendations that PSE could implement to accelerate conservation and energy efficiency. For each recommendation, will PSE incorporate the recommendation into the next IRP or support the recommendation if it is not specifically relevant to the IRP analysis process (eg: Question #2): 1. Stop forecasting perpetual demand growth in gas and electricity usage. 2. Support and promote Washington PACE legislation passage in 2020. 3. Provide new long-term loan programs for deep efficiency improvements. 4. Establish a MEETS program to "buy" saved energy. 5. Incentivize demand controllable appliances & hot water heaters. 6. Incentivize space heating fuel switching from gas and oil furnaces to efficient electric heat pump systems. (A State law amendment may be needed here). 7. Promote holistic building envelope enhancements aligned with established Passive House design standards. 8. Raise the efficiency incentive bar or provide a graduated incentive structure based solely upon performance outcomes tied to an achieved energy use intensity. Generally, "pay for performance" incentives should be offered for demand reductions over 30%. 9. Target extra efficiency promotions and incentives specific to local areas where transmission and/or generation capacity infrastructure is expected to be stretched. 10. Reduce the long list of incentives for individual efficiency measures. Focus on whole building incentives. Consider limiting individual isolated single measure incentives to just the following: efficient plug-in appliances, appliance demand response control devices, switching to LED lighting, and daylight and occupancy sensing	Notes relative to the questions: The PSE response directs the author to the Biennial Conservation Plan without directly addressing any of the ten specific recommendations that utilities could take to accelerate conservation and energy efficiency identified in the letter. The TAG asks PSE to provide a written response to each of the ten recommendations.

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#20 / IRP should include efficiency gains from deep retrofit loans / Court Olson	Related additional question: Explain the rationale and supporting data to substantiate your original response that this recommendation "is not in the best interest of all PSE's customers".	

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