



**Portland General Electric**  
121 SW Salmon Street · Portland, Ore. 97204

December 11, 2020

Public Utility Commission of Oregon  
Attn: Filing Center  
201 High St. SE, Suite 100  
P. O. Box 1088  
Salem, OR 97308-1088

**RE: UM 1912 – Revision to PGE Compliance Filing to Update RVOS Values**

In agreement with Staff at the Public Utility Commission of Oregon (Staff), PGE is submitting a revised version of the Resource Value of Solar workbook supplied in the Company’s compliance filing on July 18, 2019, per Commission Order No. 19-023 in Docket No. UM 1912.

Specifically, PGE has agreed to incorporate an alternative methodology used to spread the annual, levelized values across month and hour for four RVOS elements: Energy, Generation Capacity, T&D Capacity and Line Loss. As directed, no updates to data underlying the annualized, levelized values were incorporated. The annualized values shown below are unchanged from the July 18, 2019 filing.

**Annual RVOS Values Submitted in PGE’s July 18, 2019 Compliance Update:**

<b>RVOS Element</b>	<b>2018 \$/MWh, real levelized value</b>
Energy	26.78
Generation Capacity	7.19
T&D Capacity	7.91
Line Loss	1.58
Administration	(5.58)
Market Price Response	1.81
Integration	(0.83)
Hedge Value	1.34
Environmental Compliance	12.23
RPS Compliance	3.76
Grid Services	0
<b>RVOS Total</b>	<b>56.19</b>

The revised allocation methodology follows PacifiCorp’s approach by averaging the annual hourly profiles calculated in the RVOS workbook (Dashboard tab) by month and hour. The following 12x24 matrices show time-varying values for each of the four components in 2018 \$/MWh and are updated from those provided in the July 18, 2019 filing.

**Figure 1. Energy values shaped by month and hour (12x24)**

Month	Hour	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	1	27	26	26	26	27	29	29	43	30	31	27	26	25	25	25	26	29	35	32	31	31	28	30	27
2	1	17	15	16	17	18	19	20	27	24	23	20	17	15	14	14	15	16	21	26	23	21	18	20	18
3	1	19	20	18	19	20	21	22	24	23	21	21	18	17	16	15	16	16	18	21	23	23	22	23	21
4	1	17	15	15	15	19	23	25	24	20	18	16	14	14	13	14	15	16	18	23	24	26	23	21	18
5	1	11	10	9	8	12	18	11	15	14	14	10	14	13	14	16	15	17	18	18	19	23	18	28	12
6	1	15	15	14	13	14	16	8	14	17	18	18	19	19	20	20	21	18	19	19	17	15	16	17	16
7	1	25	23	22	21	21	22	19	22	23	25	29	31	31	33	37	38	36	38	54	35	54	31	31	25
8	1	34	30	27	25	26	30	25	27	26	30	33	36	35	37	66	50	60	70	64	75	58	40	57	45
9	1	26	24	23	23	24	26	28	26	25	25	25	27	28	29	29	29	29	31	32	33	33	28	28	27
10	1	28	26	29	26	27	31	32	37	34	35	35	33	32	31	31	30	31	36	44	41	38	34	36	29
11	1	31	30	29	30	32	36	33	36	34	34	33	32	31	31	30	33	40	44	39	37	36	34	39	32
12	1	33	31	31	32	34	37	34	39	36	35	35	32	31	30	31	34	42	45	41	40	40	35	39	34

**Figure 2. Generation Capacity values shaped by month and hour (12x24)**

Month	Hour	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	1	0	0	0	0	0	1	4	16	26	21	16	13	12	10	7	7	10	26	42	40	29	17	9	1
2	1	0	0	0	0	0	1	3	9	16	11	7	5	3	1	1	1	2	6	13	16	11	6	3	0
3	1	0	0	0	0	0	0	3	6	6	4	3	1	1	0	0	0	1	1	3	5	3	1	0	0
4	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0
6	1	0	0	0	0	0	0	0	0	0	1	2	3	4	6	7	8	7	5	3	2	1	0	0	0
7	1	0	0	0	0	0	0	0	1	3	7	11	17	25	32	38	39	37	31	23	14	6	0	0	0
8	1	0	0	0	0	0	0	1	3	7	13	19	28	38	46	52	55	55	52	42	31	17	2	0	0
9	1	0	0	0	0	0	0	1	1	1	2	3	4	7	10	14	17	18	17	15	12	3	0	0	0
10	1	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	1	2	3	3	1	0	0	0	0
11	1	0	0	0	0	0	1	5	10	18	15	11	8	7	6	5	6	11	26	39	36	26	14	5	1
12	1	0	0	0	0	0	2	9	20	33	30	24	20	15	11	9	12	27	47	61	55	38	21	11	2

PGE notes that while it has complied with Staff’s request to develop 12x24 matrices by averaging the shaped hourly avoided cost values, the Company maintains that this approach does not sufficiently account for the variability within each month/hour statistic and may result in under- or overpayment relative to the value of the resource.

In reviewing alternative methodologies that mitigate this potential issue, PGE proposes a third approach (not included in this filing) that overlays a solar shape on the Loss of Load Probability heatmap before using the heatmap to allocate the annualized generation capacity value. PGE is interested in discussing this option with Staff before a future update to RVOS elements.

**Figure 3. T&D Capacity Deferral values shaped by month and hour (12x24)**

Month	Hour	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	1	0	0	0	0	0	1	4	16	26	21	16	13	12	10	7	7	10	26	42	40	29	17	9	1
2	1	0	0	0	0	0	1	3	9	16	11	7	5	3	1	1	1	2	6	13	16	11	6	3	0
3	1	0	0	0	0	0	0	3	6	6	4	3	1	1	0	0	0	1	1	3	5	3	1	0	0
4	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0
6	1	0	0	0	0	0	0	0	0	0	1	2	3	4	6	7	8	7	5	3	2	1	0	0	0
7	1	0	0	0	0	0	0	0	1	3	7	11	17	25	32	38	39	37	31	23	14	6	0	0	0
8	1	0	0	0	0	0	0	1	3	7	13	19	28	38	46	52	55	55	52	42	31	17	2	0	0
9	1	0	0	0	0	0	0	1	1	1	2	3	4	7	10	14	17	18	17	15	12	3	0	0	0
10	1	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	1	2	3	3	1	0	0	0	0
11	1	0	0	0	0	0	1	5	10	18	15	11	8	7	6	5	6	11	26	39	36	26	14	5	1
12	1	0	0	0	0	0	2	9	20	33	30	24	20	15	11	9	12	27	47	61	55	38	21	11	2

**Figure 4. Line Loss values shaped by month and hour (12x24)**

Month	Hour	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	1.6	1.5	1.5	1.6	1.6	1.7	1.7	2.5	1.8	1.8	1.6	1.6	1.5	1.5	1.5	1.5	1.7	2.1	1.9	1.8	1.9	1.7	1.8	1.6	
2	1.0	0.9	1.0	1.0	1.0	1.1	1.2	1.6	1.4	1.4	1.2	1.0	0.9	0.8	0.8	0.9	0.9	1.3	1.5	1.4	1.3	1.1	1.2	1.1	
3	1.1	1.2	1.1	1.1	1.2	1.3	1.3	1.4	1.3	1.2	1.2	1.0	1.0	1.0	0.9	0.9	1.0	1.1	1.3	1.3	1.4	1.3	1.4	1.3	
4	1.0	0.9	0.9	0.9	1.1	1.3	1.5	1.4	1.2	1.0	0.9	0.8	0.8	0.8	0.8	0.9	0.9	1.1	1.3	1.4	1.5	1.4	1.3	1.1	
5	0.7	0.6	0.5	0.5	0.7	1.0	0.6	0.9	0.8	0.8	0.6	0.9	0.8	0.8	1.0	0.9	1.0	1.0	1.0	1.1	1.4	1.1	1.7	0.7	
6	0.9	0.9	0.8	0.7	0.8	1.0	0.5	0.8	1.0	1.1	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.1	1.2	1.1	1.0	0.9	0.9	1.0	
7	1.5	1.3	1.3	1.2	1.2	1.3	1.1	1.3	1.4	1.5	1.7	1.8	1.8	1.9	2.2	2.3	2.1	2.3	3.2	2.1	3.2	1.8	1.8	1.5	
8	2.0	1.8	1.6	1.5	1.5	1.8	1.5	1.6	1.6	1.8	2.0	2.1	2.1	2.2	3.9	2.9	3.5	4.2	3.8	4.4	3.4	2.4	3.4	2.7	
9	1.5	1.4	1.4	1.3	1.4	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.6	1.7	1.7	1.7	1.7	1.8	1.9	1.9	1.9	1.7	1.7	1.6	
10	1.6	1.6	1.7	1.5	1.6	1.8	1.9	2.2	2.0	2.1	2.0	1.9	1.9	1.8	1.8	1.8	1.8	2.1	2.6	2.4	2.2	2.0	2.1	1.7	
11	1.9	1.8	1.7	1.8	1.9	2.1	2.0	2.1	2.0	2.0	2.0	1.9	1.8	1.8	1.8	2.0	2.4	2.6	2.3	2.2	2.2	2.0	2.3	1.9	
12	1.9	1.9	1.9	1.9	2.0	2.2	2.0	2.3	2.2	2.1	2.0	1.9	1.8	1.8	1.8	2.0	2.5	2.6	2.4	2.4	2.3	2.1	2.3	2.0	

The revised Resource Value of Solar workbook associated with this update is attached.

Should you have any questions or comments regarding this filing, please contact Ashleigh Keene at [Ashleigh.Keene@pgn.com](mailto:Ashleigh.Keene@pgn.com).

Please direct all formal correspondence and requests to the following email address:  
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Sincerely,

*\s\ Robert Macfarlane*

Robert Macfarlane  
Manager, Pricing & Tariffs

cc: UM 1912 Service List