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June 18, 2021

**VIA ELECTRONIC FILING**

**[PUC.FilingCenter@state.or.us](mailto:PUC.FilingCenter@state.or.us)**

RE: Tariff Advice No. 21-07  
Modifications to Schedule 78 - Residential Energy Conservation Program

Attention Filing Center:

Pursuant to OAR 860-030-0010, Idaho Power Company (“Idaho Power” or “Company”) transmits for filing its Sixth Revised Sheet No. 78-4 to update the cost-effectiveness limits (“CELs”) for residential conservation measures included in Schedule 78. As set forth in OAR 860-030-0010(5), Idaho Power requests the tariff to become effective 30 days after submission on July 18, 2021.

The Company’s CEL computation contains DSM Alternate Cost inputs from the Second Amended 2019 Integrated Resource Plan (“IRP”), acknowledged by the OPUC on June 4, 2021, in Order No. 21-184, to determine the CELs. Included with Sheet No. 78-4 is Attachment 1 detailing the calculations of the updated CELs.

The update to the CEL conforms with the Public Utility Commission of Oregon (“OPUC”) Staff (“Staff”) recommendation as outlined in Staff Report dated August 10, 2016,<sup>1</sup> and approved by the Commission on August 16, 2016. Accordingly, the Company’s proposed update utilizes the same avoided cost inputs the Company uses in the cost-effectiveness methodology for all its other energy efficiency measures. This filing is consistent with the Company’s previous submission, Advice No. 18-07, where the proposed updates to the CELs were filed within 30 days of May 23, 2018 after OPUC Order No. 18-176 acknowledging the 2017 IRP, and is also consistent with the conclusions noted in Staff Report dated July 12, 2018<sup>2</sup> that were later approved by the Commission on July 31, 2018.

The Company’s avoided-cost update filed pursuant to OAR 680-029-0040 in Docket No. UM 1730(6), was approved on July 15, 2021, in Order No. 21-198. This filing is submitted within 30 days of that approval per OAR 860-030-0010(5) as well as within 30 days of the written 2019 IRP order. However, to avoid timing inconsistencies in the future, the Commission may wish to

<sup>1</sup> Docket No. ADV 339/Advice No. 16-11 Staff Report.

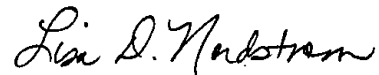
<sup>2</sup> Docket No. ADV 808/Advice No. 18-07 Staff Report.

Public Utility Commission of Oregon  
Filing Center  
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explicitly waive the 30-day requirement of OAR 860-030-0010(5) for future Schedule 78 filings to accommodate the methodology defined in Advice Nos. 16-11 and 18-07. Specifically, that the inputs to the updated CELs should come from the IRP, and the timing should be within 30 days of the written order acknowledging an IRP.

If you have any questions regarding this filing, please contact Regulatory Analyst Zack Thompson (208) 388-2982 or [zthompson@idahopower.com](mailto:zthompson@idahopower.com).

Sincerely,

A handwritten signature in black ink that reads "Lisa D. Nordstrom". The signature is written in a cursive, flowing style.

Lisa D. Nordstrom  
Lead Counsel

LDN:sh

SCHEDULE 78  
RESIDENTIAL ENERGY CONSERVATION  
PROGRAM  
(Continued)

COST-EFFECTIVENESS GUIDELINE (Continued)

The following Energy Conservation Measures shall be deemed to have the following life cycles:

- 1. Attic, ceiling, wall and under-floor insulation: 30 years
- 2. Insulation of walls in heated basements: 30 years
- 3. Insulation of heating system supply and return air ducts: 30 years
- 4. Thermal doors: 30 years
- 5. Storm windows: 15 years
- 6. Replacement windows meeting the requirements of Chapter 53 of the Oregon Residential Energy Code: 25 years
- 7. Storm doors: 7 years

COST-EFFECTIVE COMPUTATIONS

Energy Conservation Measures having an expected life cycle of 7 years shall be considered Cost-Effective if the installed cost is less than \$0.23 per annual kWh saved. Energy Conservation Measures having an expected life cycle of 15 years, 25 years, and 30 years shall be considered Cost-Effective if the installed cost is less than \$0.44 per annual kWh saved, \$0.63 per annual kWh saved, and \$0.69 per annual kWh saved, respectively. (C)  
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FINANCING

The Company will provide financing for Energy Conservation Measures at the request of a dwelling owner who occupies the dwelling as a residential space heating Customer or rents the dwelling to a tenant who is a residential space heating Customer if the dwelling has an electrical space heating system, installed and operational, which is designed to heat the living space of the dwelling. The financing program shall give the eligible dwelling owner a choice between a cash payment or a loan. As a condition of eligibility for either a cash payment or a loan, an Energy Audit of the dwelling will be required in order to determine which Energy Conservation Measures are Cost-Effective.

The Company will offer to all qualifying owners a choice between the following levels of assistance:

COST EFFECTIVE MEASURES

- 1. A loan by the Company not to exceed \$5,000, upon approved credit, to be used to pay for the Energy Conservation Measures over a period of time not to exceed 10 years. Minimum monthly payment will be \$15. Interest will be paid at a 6½ percent annual rate for the cost of those measures, or a portion of the cost thereof, which are in accordance with the Cost-Effectiveness criteria of this schedule; or
- 2. A cash payment to the dwelling owner for 25 percent of the Cost-Effective portion of the Energy Conservation Measures recommended, including installation (but not including the dwelling owner's own labor), not to exceed the cost of the measure, up to a maximum cash payment of \$1,000.

<b>Inputs:</b>	Nominal Discount Rate	7.12%
	Escalation Rate	2.20%
	Real Discount Rate	4.81%
	Avoided Losses	9.60%
	Conservation Credit	10.00%

<b>Measure Life (Years)</b>	<b>PV Alternate Costs Mid-Year Conv. (\$/kWh)</b>	<b>Avoided Losses (\$/kWh)</b>	<b>10% Conservation Credit (\$/kWh)</b>	<b>Oregon Cost-effective Limit (CEL) (\$/kWh)</b>
7	0.19	0.02	0.02	0.23
15	0.37	0.04	0.04	0.44
25	0.52	0.05	0.06	0.63
30	0.57	0.06	0.06	0.69

Notes: Oregon acknowledged 2019 IRP April 15, 2021  
 OPUC Order No. 21-184

Alternate Cost Worksheet 2021 for OR CEL.xlsx  
 4/21/2021

Inputs for CEL Calculation	
Nominal Discount Rate <sup>1</sup>	7.12%
Escalation Rate <sup>2</sup>	2.20%

**Date Created:** 4/21/2021  
**Modified by:** Zack Thompson  
**Department:** Regulatory Affairs  
**Last Modified:** 4/21/2021

**Description:** Provides the values used in the cost-effectiveness computations for Oregon residential conservation measures (Schedule 78) to reflect the Company's updated DSM Alternative Costs. Second Amended 2019 IRP acknowledged in Oregon by Order No. 21-184 in Docket LC 74.

**How to Use:** All inputs are in blue.

Year #	Year	Peak Allocation of Capacity			DSM Alternate costs by Pricing Period <sup>5</sup>						Discounted DSM Alternate Costs Combined Capacity and Energy \$/kWh (mid-year PV costs)					Cumulative Discounted DSM Alternate Costs Variable Alternative Energy \$/kWh and Fixed Plant Costs (NPV)				
		Summer On-Peak (SONP) <sup>3</sup>	Reciprocating Internal Combustion Engine (RICE)	Summer On-Peak \$ per Hour	Summer On-Peak SONP	Summer Mid-Peak SMP	Summer Peak SOFP	Off-Peak NSMP	Non-Summer Mid-Peak NSMP	Non-Summer Off-Peak NSOFP	Summer On-Peak SONP	Summer Mid-Peak SMP	Summer Off-Peak SOFP	Non-Summer Mid-Peak NSMP	Non-Summer Off-Peak NSOFP	Summer On-Peak SONP	Summer Mid-Peak SMP	Summer Off-Peak SOFP	Non-Summer Mid-Peak NSMP	Non-Summer Off-Peak NSOFP
		Hours / Year	\$/kW/year	Electricity \$ /kW	Electricity \$ /kW	Electricity \$ /kW	Electricity \$ /kW	Electricity \$ /kW	Electricity \$ /kW	Electricity \$ /kW	Electricity \$ /kW	Electricity \$ /kW	Electricity \$ /kW	Electricity \$ /kW	Electricity \$ /kW	Electricity \$ /kW	Electricity \$ /kW	Electricity \$ /kW	Electricity \$ /kW	Electricity \$ /kW
1	2021	520	121.19	\$0.233	\$0.050	\$0.032	\$0.028	\$0.029	\$0.024	\$0.274	\$0.031	\$0.027	\$0.028	\$0.023	\$0.274	\$0.031	\$0.027	\$0.028	\$0.023	\$0.023
2	2022	520	121.19	\$0.233	\$0.053	\$0.033	\$0.029	\$0.030	\$0.025	\$0.258	\$0.030	\$0.026	\$0.027	\$0.023	\$0.531	\$0.061	\$0.054	\$0.055	\$0.055	\$0.046
3	2023	520	121.19	\$0.233	\$0.055	\$0.034	\$0.030	\$0.030	\$0.026	\$0.242	\$0.029	\$0.025	\$0.026	\$0.022	\$0.774	\$0.090	\$0.079	\$0.080	\$0.080	\$0.069
4	2024	512	121.19	\$0.237	\$0.057	\$0.037	\$0.032	\$0.033	\$0.028	\$0.231	\$0.029	\$0.025	\$0.026	\$0.022	\$1.005	\$0.119	\$0.104	\$0.106	\$0.106	\$0.090
5	2025	512	121.19	\$0.237	\$0.059	\$0.038	\$0.034	\$0.034	\$0.030	\$0.217	\$0.028	\$0.025	\$0.025	\$0.022	\$1.221	\$0.147	\$0.129	\$0.131	\$0.131	\$0.112
6	2026	528	121.19	\$0.230	\$0.060	\$0.036	\$0.029	\$0.036	\$0.028	\$0.198	\$0.025	\$0.020	\$0.025	\$0.019	\$1.420	\$0.172	\$0.149	\$0.156	\$0.156	\$0.132
7	2027	520	121.19	\$0.233	\$0.061	\$0.039	\$0.032	\$0.039	\$0.031	\$0.188	\$0.025	\$0.021	\$0.025	\$0.020	\$1.608	\$0.197	\$0.170	\$0.181	\$0.181	\$0.152
8	2028	520	121.19	\$0.233	\$0.063	\$0.042	\$0.036	\$0.041	\$0.034	\$0.177	\$0.025	\$0.021	\$0.024	\$0.020	\$1.785	\$0.222	\$0.191	\$0.205	\$0.205	\$0.172
9	2029	520	121.19	\$0.233	\$0.064	\$0.044	\$0.040	\$0.042	\$0.037	\$0.166	\$0.024	\$0.022	\$0.024	\$0.021	\$1.950	\$0.246	\$0.213	\$0.229	\$0.229	\$0.192
10	2030	512	121.19	\$0.237	\$0.065	\$0.045	\$0.039	\$0.042	\$0.037	\$0.157	\$0.023	\$0.020	\$0.022	\$0.019	\$2.107	\$0.269	\$0.233	\$0.251	\$0.251	\$0.212
11	2031	512	121.19	\$0.237	\$0.067	\$0.048	\$0.042	\$0.046	\$0.040	\$0.147	\$0.023	\$0.020	\$0.022	\$0.019	\$2.255	\$0.293	\$0.253	\$0.273	\$0.273	\$0.231
12	2032	520	121.19	\$0.233	\$0.068	\$0.049	\$0.044	\$0.047	\$0.041	\$0.136	\$0.022	\$0.020	\$0.021	\$0.019	\$2.391	\$0.315	\$0.273	\$0.294	\$0.294	\$0.250
13	2033	520	121.19	\$0.233	\$0.069	\$0.050	\$0.045	\$0.049	\$0.043	\$0.128	\$0.021	\$0.019	\$0.021	\$0.018	\$2.519	\$0.336	\$0.292	\$0.315	\$0.315	\$0.268
14	2034	520	121.19	\$0.233	\$0.071	\$0.051	\$0.047	\$0.050	\$0.044	\$0.120	\$0.020	\$0.018	\$0.020	\$0.018	\$2.639	\$0.356	\$0.311	\$0.335	\$0.335	\$0.285
15	2035	520	121.19	\$0.233	\$0.072	\$0.053	\$0.048	\$0.052	\$0.046	\$0.112	\$0.020	\$0.018	\$0.019	\$0.017	\$2.752	\$0.376	\$0.328	\$0.354	\$0.354	\$0.302
16	2036	512	121.19	\$0.237	\$0.073	\$0.056	\$0.050	\$0.054	\$0.048	\$0.107	\$0.019	\$0.017	\$0.019	\$0.016	\$2.858	\$0.395	\$0.346	\$0.372	\$0.372	\$0.319
17	2037	528	121.19	\$0.230	\$0.075	\$0.056	\$0.052	\$0.056	\$0.049	\$0.098	\$0.018	\$0.017	\$0.018	\$0.016	\$2.956	\$0.413	\$0.362	\$0.390	\$0.390	\$0.334
18	2038	520	121.19	\$0.233	\$0.077	\$0.055	\$0.052	\$0.055	\$0.049	\$0.093	\$0.017	\$0.016	\$0.017	\$0.015	\$3.049	\$0.430	\$0.378	\$0.407	\$0.407	\$0.349
19	2039	520	121.19	\$0.233	\$0.078	\$0.056	\$0.053	\$0.057	\$0.050	\$0.087	\$0.016	\$0.015	\$0.016	\$0.014	\$3.136	\$0.445	\$0.393	\$0.423	\$0.423	\$0.363
20	2040	520	121.19	\$0.233	\$0.080	\$0.058	\$0.054	\$0.058	\$0.052	\$0.082	\$0.015	\$0.014	\$0.015	\$0.013	\$3.218	\$0.460	\$0.407	\$0.438	\$0.438	\$0.377
21	2041	512	121.19	\$0.237	\$0.082	\$0.059	\$0.056	\$0.059	\$0.053	\$0.078	\$0.014	\$0.014	\$0.014	\$0.013	\$3.296	\$0.475	\$0.421	\$0.453	\$0.453	\$0.390
22	2042	512	121.19	\$0.237	\$0.083	\$0.060	\$0.057	\$0.061	\$0.054	\$0.073	\$0.014	\$0.013	\$0.014	\$0.012	\$3.369	\$0.488	\$0.434	\$0.466	\$0.466	\$0.402
23	2043	528	121.19	\$0.230	\$0.085	\$0.062	\$0.058	\$0.062	\$0.055	\$0.067	\$0.013	\$0.012	\$0.013	\$0.012	\$3.436	\$0.502	\$0.446	\$0.480	\$0.480	\$0.414
24	2044	520	121.19	\$0.233	\$0.087	\$0.063	\$0.059	\$0.063	\$0.056	\$0.064	\$0.012	\$0.012	\$0.013	\$0.011	\$3.499	\$0.514	\$0.458	\$0.492	\$0.492	\$0.425
25	2045	520	121.19	\$0.233	\$0.089	\$0.064	\$0.061	\$0.065	\$0.057	\$0.060	\$0.012	\$0.011	\$0.012	\$0.011	\$3.559	\$0.526	\$0.469	\$0.504	\$0.504	\$0.435
26	2046	520	121.19	\$0.233	\$0.091	\$0.066	\$0.062	\$0.066	\$0.059	\$0.056	\$0.011	\$0.011	\$0.011	\$0.010	\$3.615	\$0.537	\$0.480	\$0.516	\$0.516	\$0.446
27	2047	512	121.19	\$0.237	\$0.093	\$0.067	\$0.063	\$0.068	\$0.060	\$0.053	\$0.011	\$0.010	\$0.011	\$0.010	\$3.669	\$0.548	\$0.490	\$0.526	\$0.526	\$0.455
28	2048	528	121.19	\$0.230	\$0.095	\$0.069	\$0.065	\$0.069	\$0.061	\$0.049	\$0.010	\$0.010	\$0.010	\$0.009	\$3.718	\$0.559	\$0.500	\$0.537	\$0.537	\$0.465
29	2049	520	121.19	\$0.233	\$0.097	\$0.070	\$0.066	\$0.071	\$0.063	\$0.047	\$0.010	\$0.009	\$0.010	\$0.009	\$3.764	\$0.568	\$0.509	\$0.547	\$0.547	\$0.473
30	2050	520	121.19	\$0.233	\$0.099	\$0.072	\$0.068	\$0.072	\$0.064	\$0.044	\$0.009	\$0.009	\$0.009	\$0.008	\$3.808	\$0.578	\$0.518	\$0.556	\$0.556	\$0.482

<sup>1</sup> Nominal Discount Rate is Discount rate (weighted average cost of capital) from Table DSM Financial Assumptions on page 18 of Second Amended 2019 Idaho Power IRP Technical Appendix C

<sup>2</sup> Escalation Rate is Financial escalation factor from Table DSM Financial Assumptions on page 18 of Second Amended 2019 Idaho Power IRP Technical Appendix C

<sup>3</sup> Summer On-Peak hours June 1-August 31

<sup>4</sup> Reciprocating internal combustion engine (RICE) dollars per kW per year is from DSM Financial Assumptions on page 18 of Second Amended 2019 Idaho Power IRP Technical Appendix C

<sup>5</sup> DSM Alternate Cost by Pricing Period from Avoided Cost Averages on page 18 of Second Amended 2019 Idaho Power IRP Technical Appendix C

<sup>6</sup> DSM Alternate costs by Pricing Period are not published beyond 2038, values for 2039 to 2050 were escalated using Escalation rate above.

Inputs for CEL Calculation	
Nominal Discount Rate <sup>1</sup>	7.12%
Escalation Rate <sup>2</sup>	2.20%
Line Losses <sup>3</sup>	9.60%
Real Discount Rate	4.81%

$$((1 + \text{Nominal Discount Rate}) / (1 + \text{Escalation Rate})) - 1$$

Energy Conservation Measure Life	
Storm doors	7
Storm windows	15
Chapter 53 windows	25
Attic/Ceiling/Wall/Floor/doors/windows	30

	DSM Alternate Cost Combined Capacity and Energy \$/kWh					Total
	Summer			Non-Summer		
	On-Peak	Mid-Peak	Off-Peak	Mid-Peak	Off-Peak	
Typical Hours in Period	512	960	736	3,616	2,936	8,760

	Load Shapes - Percent of Hours					Total
	Summer			Non-Summer		
	On-Peak	Mid-Peak	Off-Peak	Mid-Peak	Off-Peak	
Storm doors - 7 Years	1.575%	3.500%	1.682%	48.794%	44.450%	100.000%
Storm windows - 15 Years	1.575%	3.500%	1.682%	48.794%	44.450%	100.000%
Chapter 53 windows - 25 Years	1.575%	3.500%	1.682%	48.794%	44.450%	100.000%
Attic/Ceiling/Wall/Floor/doors/windows - 30 Years	1.575%	3.500%	1.682%	48.794%	44.450%	100.000%

	Mid-Year PV of Combined Energy and Capacity \$/kWh				
	Summer			Non-Summer	
	On-Peak	Mid-Peak	Off-Peak	Mid-Peak	Off-Peak
Storm doors - 7 Years	\$1.608	\$0.197	\$0.170	\$0.181	\$0.152
Storm windows - 15 Years	\$2.752	\$0.376	\$0.328	\$0.354	\$0.302
Chapter 53 windows - 25 Years	\$3.559	\$0.526	\$0.469	\$0.504	\$0.435
Attic/Ceiling/Wall/Floor/doors/windows - 30 Years	\$3.808	\$0.578	\$0.518	\$0.556	\$0.482

	Mid-Year PV of Combined Energy and Capacity \$/kWh x Load Shapes Percentage of Hours					Total
	Summer			Non-Summer		
	On-Peak	Mid-Peak	Off-Peak	Mid-Peak	Off-Peak	
Storm doors - 7 Years	\$0.025	\$0.007	\$0.003	\$0.088	\$0.067	\$0.191
Storm windows - 15 Years	\$0.043	\$0.013	\$0.006	\$0.173	\$0.134	\$0.369
Chapter 53 windows - 25 Years	\$0.056	\$0.018	\$0.008	\$0.246	\$0.194	\$0.522
Attic/Ceiling/Wall/Floor/doors/windows - 30 Years	\$0.060	\$0.020	\$0.009	\$0.271	\$0.214	\$0.575

	PV of Combined Energy and Capacity \$/kWh by load distribution Shape					CEL Cost-Effective Avoided Cost (\$/kWh)
	PV Alternate Costs Mid-Year Conv. (cents/kWh)	10% Line Losses	Conservation Credit	CEL Cost-Effective Avoided Cost (cents/kWh)	CEL Cost-Effective Avoided Cost (\$/kWh)	
Storm doors - 7 Years	19.068	1.096	1.100	22.989	\$0.23	
Storm windows - 15 Years	36.895	1.096	1.100	44.481	\$0.44	
Chapter 53 windows - 25 Years	52.192	1.096	1.100	62.922	\$0.63	
Attic/Ceiling/Wall/Floor/doors/windows - 30 Years	57.453	1.096	1.100	69.265	\$0.69	

<sup>1</sup> Nominal Discount Rate is Discount rate (weighted average cost of capital) from Table DSM Financial Assumptions on page 18 of Second Amended 2019 Idaho Power IRP Technical Appendix C

<sup>2</sup> Escalation Rate is Financial escalation factor from Table DSM Financial Assumptions on page 18 of Second Amended 2019 Idaho Power IRP Technical Appendix C

<sup>3</sup> Lines losses is Non-summer secondary losses from Table DSM Financial Assumptions on page 18 of Second Amended 2019 Idaho Power IRP Technical Appendix C