



e-FILING REPORT COVER SHEET

COMPANY NAME:

DOES REPORT CONTAIN CONFIDENTIAL INFORMATION? No Yes If yes, submit a redacted public version (or a cover letter) by email. Submit the confidential information as directed in OAR 860-001-0070 or the terms of an applicable protective order.

Select report type: RE (Electric) RG (Gas) RW (Water) RT (Telecommunications)
RO (Other, for example, industry safety information)

Did you previously file a similar report? No Yes, report docket number:

Report is required by: OAR
Statute
Order

Note: A one-time submission required by an order is a compliance filing and not a report (file compliance in the applicable docket)

Other
(For example, federal regulations, or requested by Staff)

Is this report associated with a specific docket/case? No Yes, docket number:

List Key Words for this report. We use these to improve search results.

Send the completed Cover Sheet and the Report in an email addressed to PUC.FilingCenter@state.or.us

Send confidential information, voluminous reports, or energy utility Results of Operations Reports to PUC Filing Center, PO Box 1088, Salem, OR 97308-1088 or by delivery service to 201 High Street SE Suite 100, Salem, OR 97301.

October 15, 2021

VIA ELECTRONIC FILING

Public Utility Commission of Oregon
Attention: Filing Center
201 High Street SE, Suite 100
PO Box 1088
Salem, OR 97308-1088

RE: RG 87 / UM 1893 – NW Natural’s 2021 Energy Efficiency Avoided Costs Annual Report

Northwest Natural Gas Company, dba NW Natural (“NW Natural” or the “Company”), files herewith its 2021 Energy Efficiency Avoided Costs Annual Report in compliance with OAR 860-030-0011(1) using the specified forms as approved in Order No. 19-252.

The enclosed Annual Report is based on NW Natural’s most recently acknowledged 2018 Integrated Resource Plan (IRP) Update #3, filed on March 1, 2021 in docket LC 71. Staff recommended:

“...acknowledgement of NW Natural's Action Plan and most avoided cost values, but does not recommend acknowledgement of the avoided cost values for distribution capacity and risk reduction. These values have changed significantly since the last IRP. Staff requires more time to evaluate them and looks forward to reviewing them in depth and to address their use in NW Natural's next avoided cost filing.”

On July 12, 2021, the Commission issued Order No. 21-274, which indicated, in part:

“Acknowledge in part and decline to acknowledge in part NW Natural's third update to its 2018 Integrated Resource Plan. Decline to acknowledge NWN's distribution capacity and risk reduction avoided costs for purposes of its use in NWN's next avoided cost filing, and direct NW Natural to include the updated avoided cost data in its next avoided cost filing, with a supporting explanation for use of the data.”

In response to Staff’s recommendation and the Commission’s Order No. 21-274, NW Natural hosted a workshop on October 8, 2021, with Staff, members from the Northwest Power and Conservation Council and additional stakeholders to review the methodology and values for the distribution capacity and risk reduction avoided costs filed in the 2018 IRP Update #3.

NW Natural is submitting the avoided costs included the 2018 IRP Update #3 for the UM 1893 process.

Please address correspondence on this matter to me with copies to the following:

eFiling
Rates & Regulatory Affairs
NW Natural
250 SW Taylor Street
Portland, Oregon 97204
Telephone: 503-610-7330
eFiling@nwnatural.com

Sincerely,

/s/ Rebecca T. Brown

Rebecca T. Brown
Regulatory Compliance

Attachment

Energy Efficiency Avoided Cost Submission Template - Natural Gas	
Utility Name:	NWN
Submission Date:	10/15/2021
Instructions and Definitions	
<p><> Please fill out this workbook as completely as possible and per the instructions</p> <p><> Inputs will be reviewed and approved by the OPUC before being sent to the Energy Trust of Oregon for use in Avoided Cost development.</p> <p><> Provide as much detail as possible when sourcing data inputs, including the link to the source (if available), page number and table or graph number. <i>This will increase the efficiency of this process and require less iteration during the OPUC review period.</i></p> <p><i>For worksheets 1,2,3,4,5,6 refer to data presented in the most recently acknowledged IRP, IRP Update, or General Rate Case unless otherwise noted.</i></p>	
1) Global Inputs - IRP	
<p><> Standard economic assumptions of the avoided costs are input into this tab, including inflation and discount rates, as well as real dollar year and forecast start year.</p> <p><> If supply or distribution capacity values were proportioned using a system peak coincident factor, please provide the system peak definition of the utility (calendar Month/Day/Hour) and the peak-day/annual load and peak-hour/Annual Load Ratios for the utility system.</p> <p><> Note that in tabs 2-6, calendar start year and input table titles are calculated fields that pull from the global input tab, so these must be populated.</p> <p><> Ensure that the dollar years of the data inputs match the source - Energy Trust will inflate to the proper year.</p>	
2) Commodity and Transport - IRP	
<p><> Provide Commodity and Transport price forecast by month.</p> <p><> Indicate if the forecast is in nominal or real dollars (if real, dollar value will populate headers from Global Inputs tab).</p>	
3) Environmental Compliance - IRP	
<p><> Provide the \$/Metric Ton of CO2 assumed for each year of the forecast.</p> <p><> Provide the metric ton of CO2/dekatherm assumed for each year of the forecast.</p> <p><> Column 'F' is a calculated field, which multiplies the \$/metric ton of CO2 by the CO2/dekatherm.</p>	
4) Infrastructure Capacity - IRP	
<p><> Provide the Supply Infrastructure Capacity Cost in a \$/Dth/Day format for each year available of the forecast period</p> <p><> Provide the Distribution Infrastructure Capacity Cost in a \$/Dth/Day and \$/Dth/Hour format for each year available of the forecast period.</p> <p><> If supply or distribution capacity values were proportioned using a system peak coincident factor, please provide the corresponding system peak coincident factor in "Global Inputs - IRP" tab on rows 17 and 19.</p>	
5) Risk Reduction - IRP	
<p><> Provide the Risk Reduction value in a \$/Dth format if available for each year available of the forecast period</p> <p><> The box in cell C7 calculates the levelized net present value of all years of the forecast period. This is used when negative values occur in any year of the forecast period. If the levelized risk reduction value is negative, zero will be assigned as the final value. This is due to the premise that the risk reduction value is meant to be a benefit.</p>	
6) End Use Profiles - IRP	
<p><> Provide the Monthly share of annual load for the utility's system by end use, if available.</p> <p><> Provide the peak day/annual load and peak hour/annual load ratios by end use, if available.</p> <p><> End-use profiles are meant to represent the timing of savings, these can be derived from either savings profiles or load profiles.</p>	
1a, 2a, 3a, 4a, 5a, 6a) Alternative Submissions	
<p><> These worksheets provide a location for the utility to present alternative values to those found in the most recently acknowledged IRP, IRP Update, or General Rate Case</p> <p><> Submissions in these tabs are not required.</p> <p><> Provide a rationale for submitting the alternative values in the box provided at the top of each alternative worksheet.</p> <p><> If a second set of alternative values is submitted, simply copy the alt tabs necessary and rename to 1b, alt 2 in the tab name. However, note that in tabs 2-6, calendar start year and input table titles are calculated fields that pull from the global input tab. Either update these formulas or override them.</p>	

Global Assumptions Inputs			SOURCING				
Provide as much detail as possible with sourcing including a link. Ensure that dollar years listed here are the same as the source.							
Avoided Cost Element	Units	Value	Source	Source Page #	Table # (if applicable)	Source Link or File Name	Source Notes
Discount Rate (Company's Real after-tax weighted average cost of capital (WACC))	Percent	4.54%	Most Recent Rate Case- 2018 IRP Update				
Inflation Rate	Percent	varies by year- avg of 2.25% over 30 year period	IHS Global Insights				
Regional Act Credit	Percent	10.00%	N/A				
Forecast Period Calendar Start Year	Year	2021	Most Recent Future Year				
Real Dollar Base Year	Year	2019	2018 IRP	Appendix D - page D.1			
System Peak Definition	Calendar Month/Day/Hour	Day for Gas Supply, Hour for Distribution System Planning	2018 IRP	Chapters 3, 5, and 8			
System Peak Coincident Day Factor (if needed)	Peak Day/Annual Load Ratio						
System Peak Coincident Hour Factor (if needed)	Peak Hour/Annual Load Ratio						

All inputs are given from Data request LC71-101 in regards to staff's request for avoided costs presented in the 2018 IRP Update #3

Commodity Price Inputs

Real or Nominal?	Real
Source and Pg #:	NW Natural IRP Update #3
Source Link or File Name:	
Source Notes:	

Gas Commodity and Transportation/Storage Costs (Real 2019\$/Dth)

Year #	Calendar Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2021	\$1.74	\$1.74	\$1.52	\$1.34	\$1.18	\$1.18	\$1.18	\$1.19	\$1.19	\$1.25	\$1.94	\$1.97
2	2022	\$1.97	\$1.99	\$1.95	\$1.79	\$1.70	\$1.71	\$1.71	\$1.72	\$1.73	\$1.76	\$2.24	\$2.26
3	2023	\$2.27	\$2.28	\$2.22	\$1.98	\$1.86	\$1.87	\$1.88	\$1.89	\$1.89	\$1.92	\$2.43	\$2.46
4	2024	\$2.48	\$2.47	\$2.41	\$2.20	\$2.14	\$2.15	\$2.16	\$2.16	\$2.17	\$2.22	\$2.73	\$2.77
5	2025	\$2.78	\$2.79	\$2.76	\$2.35	\$2.34	\$2.35	\$2.36	\$2.37	\$2.38	\$2.39	\$2.81	\$2.85
6	2026	\$2.86	\$2.87	\$2.70	\$2.41	\$2.32	\$2.33	\$2.34	\$2.35	\$2.36	\$2.43	\$2.86	\$2.98
7	2027	\$2.99	\$3.00	\$2.83	\$2.52	\$2.47	\$2.48	\$2.49	\$2.50	\$2.51	\$2.57	\$3.02	\$3.10
8	2028	\$3.11	\$3.13	\$3.04	\$2.76	\$2.66	\$2.67	\$2.68	\$2.69	\$2.70	\$2.75	\$3.31	\$3.44
9	2029	\$3.45	\$3.47	\$3.30	\$2.99	\$2.81	\$2.82	\$2.83	\$2.84	\$2.85	\$2.89	\$3.34	\$3.46
10	2030	\$3.48	\$3.49	\$3.36	\$3.07	\$3.00	\$3.02	\$3.03	\$3.04	\$3.05	\$3.09	\$3.52	\$3.57
11	2031	\$3.59	\$3.61	\$3.53	\$3.17	\$3.05	\$3.06	\$3.07	\$3.08	\$3.09	\$3.14	\$3.70	\$3.75
12	2032	\$3.77	\$3.78	\$3.69	\$3.33	\$3.08	\$3.09	\$3.10	\$3.12	\$3.13	\$3.19	\$3.81	\$3.84
13	2033	\$3.86	\$3.87	\$3.54	\$3.27	\$3.05	\$3.06	\$3.07	\$3.09	\$3.10	\$3.15	\$3.86	\$4.09
14	2034	\$4.11	\$4.12	\$3.64	\$3.34	\$3.15	\$3.17	\$3.18	\$3.19	\$3.20	\$3.25	\$4.09	\$4.20
15	2035	\$4.21	\$4.23	\$3.79	\$3.41	\$3.07	\$3.08	\$3.10	\$3.11	\$3.12	\$3.18	\$3.92	\$4.05
16	2036	\$4.07	\$4.08	\$3.72	\$3.38	\$3.00	\$3.01	\$3.02	\$3.03	\$3.05	\$3.11	\$3.89	\$4.18
17	2037	\$4.20	\$4.21	\$3.84	\$3.54	\$3.25	\$3.27	\$3.28	\$3.29	\$3.31	\$3.36	\$4.08	\$4.32
18	2038	\$4.34	\$4.36	\$3.99	\$3.66	\$3.45	\$3.46	\$3.48	\$3.49	\$3.50	\$3.55	\$4.05	\$4.36
19	2039	\$4.38	\$4.40	\$3.99	\$3.54	\$3.37	\$3.38	\$3.40	\$3.41	\$3.42	\$3.48	\$4.12	\$4.42
20	2040	\$4.44	\$4.45	\$4.05	\$3.71	\$3.36	\$3.38	\$3.41	\$3.43	\$3.18	\$3.28	\$3.92	\$4.22
21	2041												
22	2042												
23	2043												
24	2044												
25	2045												
26	2046												
27	2047												
28	2048												
29	2049												
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31	2051												
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41	2061												
42	2062												
43	2063												
44	2064												
45	2065												

Environmental Compliance Cost Inputs

Real or Nominal? Real

Source and Pg #: 2018 IRP Update # 3, page 7 figure 2

Source Link or File Name: <https://edocs.puc.state.or.us/efdocs/HAD/lc71had164936.pdf>

Source Notes: Average carbon intensity of natural gas delivered is declining through time, though avoided costs are on the margin, hence a constant carbon intensity

Environmental Compliance Cost

Year #	Calendar Year	Environmental Compliance Cost (Real 2019\$/MTCO2e)	Carbon Intensity (MTCO2e/Dth)	Environmental Compliance Cost (Real 2019\$/Dth)
1	2021	\$76.61	0.0531	\$4.068
2	2022	\$78.21	0.0531	\$4.153
3	2023	\$79.82	0.0531	\$4.238
4	2024	\$81.42	0.0531	\$4.323
5	2025	\$83.03	0.0531	\$4.409
6	2026	\$84.25	0.0531	\$4.474
7	2027	\$85.47	0.0531	\$4.538
8	2028	\$86.69	0.0531	\$4.603
9	2029	\$87.91	0.0531	\$4.668
10	2030	\$89.13	0.0531	\$4.733
11	2031	\$90.35	0.0531	\$4.798
12	2032	\$91.57	0.0531	\$4.863
13	2033	\$92.79	0.0531	\$4.927
14	2034	\$94.02	0.0531	\$4.992
15	2035	\$95.24	0.0531	\$5.057
16	2036	\$96.59	0.0531	\$5.129
17	2037	\$97.94	0.0531	\$5.201
18	2038	\$99.29	0.0531	\$5.273
19	2039	\$100.65	0.0531	\$5.344
20	2040	\$102.00	0.0531	\$5.416
21	2041	\$103.20	0.0531	\$5.480
22	2042	\$104.40	0.0531	\$5.544
23	2043	\$105.60	0.0531	\$5.607
24	2044	\$106.80	0.0531	\$5.671
25	2045	\$108.00	0.0531	\$5.735
26	2046	\$109.40	0.0531	\$5.809
27	2047	\$110.80	0.0531	\$5.883
28	2048	\$112.20	0.0531	\$5.958
29	2049	\$113.60	0.0531	\$6.032
30	2050	\$115.00	0.0531	\$6.107
31	2051			\$0.000
32	2052			\$0.000
33	2053			\$0.000
34	2054			\$0.000
35	2055			\$0.000
36	2056			\$0.000
37	2057			\$0.000
38	2058			\$0.000
39	2059			\$0.000
40	2060			\$0.000
41	2061			\$0.000
42	2062			\$0.000
43	2063			\$0.000
44	2064			\$0.000
45	2065			\$0.000

Infrastructure Capacity Cost Inputs

Real or Nominal?	Real
Source and Pg #:	2018 IRP Update # 3, page 7 figure 2
Source Link or File Name:	
Source Notes:	

Infrastructure Capacity Costs

Year #	Calendar Year	Infrastructure Capacity Costs		
		Supply (Real 2019\$/Dth/Day)	Distribution Peak DAY (Real 2019\$/Dth/Day)	Distribution Peak HOUR (Real 2019\$/Dth/Hour)
1	2021	\$0.057	N/A	\$0.442
2	2022	\$0.057	N/A	\$0.442
3	2023	\$0.057	N/A	\$0.442
4	2024	\$0.057	N/A	\$0.442
5	2025	\$0.057	N/A	\$0.442
6	2026	\$0.057	N/A	\$0.442
7	2027	\$0.057	N/A	\$0.442
8	2028	\$0.057	N/A	\$0.442
9	2029	\$0.057	N/A	\$0.442
10	2030	\$0.057	N/A	\$0.442
11	2031	\$0.057	N/A	\$0.442
12	2032	\$0.057	N/A	\$0.442
13	2033	\$0.057	N/A	\$0.442
14	2034	\$0.057	N/A	\$0.442
15	2035	\$0.057	N/A	\$0.442
16	2036	\$0.057	N/A	\$0.442
17	2037	\$0.057	N/A	\$0.442
18	2038	\$0.057	N/A	\$0.442
19	2039	\$0.057	N/A	\$0.442
20	2040	\$0.057	N/A	\$0.442
21	2041	\$0.057	N/A	\$0.442
22	2042	\$0.057	N/A	\$0.442
23	2043	\$0.057	N/A	\$0.442
24	2044	\$0.057	N/A	\$0.442
25	2045	\$0.057	N/A	\$0.442
26	2046	\$0.057	N/A	\$0.442
27	2047	\$0.057	N/A	\$0.442
28	2048	\$0.057	N/A	\$0.442
29	2049	\$0.057	N/A	\$0.442
30	2050	\$0.057	N/A	\$0.442
31	2051			
32	2052			
33	2053			
34	2054			
35	2055			
36	2056			
37	2057			
38	2058			
39	2059			
40	2060			
41	2061			
42	2062			
43	2063			
44	2064			
45	2065			

Risk Reduction Value Inputs

Real or Nominal?	Real
Source and Pg #:	2018 IRP Update # 3, page 7 figure 2
Source Link or File Name:	See data from data request LC-71 DR 128 for calculation
Source Notes:	

Risk Reduction Value

\$0.51

= Levelized Risk Reduction Value (for use when negative values occur in any years of the forecast period). If this value is negative, then zero will be assigned as the final value.

Year #	Calendar Year	Risk Reduction Value (Real 2019\$/Dth)
1	2021	\$0.510
2	2022	\$0.510
3	2023	\$0.510
4	2024	\$0.510
5	2025	\$0.510
6	2026	\$0.510
7	2027	\$0.510
8	2028	\$0.510
9	2029	\$0.510
10	2030	\$0.510
11	2031	\$0.510
12	2032	\$0.510
13	2033	\$0.510
14	2034	\$0.510
15	2035	\$0.510
16	2036	\$0.510
17	2037	\$0.510
18	2038	\$0.510
19	2039	\$0.510
20	2040	\$0.510

End Use Profiles & Peak Day/Hour Ratios

Source and Pg # and/or Table #: LC-71 2018 IRP, Chapter 4, table 4.2 & 4.3

Source Link or File Name: https://www.nwnatural.com/-/media/nwnatural/pdfs/nwnatural_2018_irp.pdf?la=en&hash=825758F292FF93517864DEEC725B3598

Source Notes: The numbers for the monthly share of normal weather annual load were not published in the 2018 IRP, but were used in the calculations of the avoided costs by end use, which is discussed in the IRP on page 4.3.

End Use Profiles	Monthly Share of Normal Weather Annual Load												Peak to Annual Normal Weather Usage Ratios	
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Peak Day	Peak Hour
Residential Space Heating	0.204	0.145	0.123	0.070	0.033	0.006	0.000	0.001	0.008	0.062	0.129	0.218	0.0176	0.00102
Residential Hearths and Fireplaces	0.204	0.145	0.123	0.070	0.033	0.006	0.000	0.001	0.008	0.062	0.129	0.218	0.0176	0.00051
Commercial Space Heating	0.204	0.145	0.123	0.070	0.033	0.006	0.000	0.001	0.008	0.062	0.129	0.218	0.0157	0.00123
Water Heating	0.101	0.096	0.092	0.088	0.083	0.079	0.073	0.068	0.069	0.073	0.081	0.095	0.0033	0.00026
Cooking	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.0036	0.00071
Process Load	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.0027	0.00011

Notes:
Trust will work with Utility and OPUC Staff to determine the most appropriate load or savings profiles and peak factors to use, whether that is utility specific values or Northwest Power and Conservation Council proxies. In order for utility-specific values to be used, utility staff must review the methodology they used to develop the values with OPUC Staff.

Alternative Submissions	Rationale for alternative submission: <i>Provide an overall rationale for providing alternative values - use the 'Source Notes/Rationale' column to provide more detailed rationale for individual inputs.</i>
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Global Assumptions Inputs			SOURCING				
<i>Provide as much detail as possible with sourcing including a link. Ensure that dollar years listed here are the same as the source.</i>							
Avoided Cost Element	Units	Value	Source	Source Page #	Table # (if applicable)	Source Link or File Name	Source Notes
Discount Rate (Company's Real after-tax weighted average cost of capital (WACC))	Percent						
Inflation Rate	Percent						
Regional Act Credit	Percent	10.00%	N/A				
Forecast Period Calendar Start Year	Year	2020					
Real Dollar Base Year	Year	2020					

Alternative Submissions	<p style="text-align: center;">Rationale for alternative submission: <i>Provide an overall rationale for providing alternative values using this box</i></p>
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Commodity Price Inputs

Real or Nominal?	
Source and Pg #:	
Source Link or File Name:	
Source Notes:	

Gas Commodity and Transportation/Storage Costs (\$/Dth)

Year #	Calendar Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2020												
2	2021												
3	2022												
4	2023												
5	2024												
6	2025												
7	2026												
8	2027												
9	2028												
10	2029												
11	2030												
12	2031												
13	2032												
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15	2034												
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18	2037												
19	2038												
20	2039												
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38	2057												
39	2058												
40	2059												
41	2060												
42	2061												
43	2062												
44	2063												
45	2064												

Alternative Submissions	Rationale for alternative submission: <i>Provide an overall rationale for providing alternative values using this box</i>
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Environmental Compliance Cost Inputs

Real or Nominal?	
Source and Pg #:	
Source Link or File Name:	
Source Notes:	

Environmental Compliance Cost

Year #	Calendar Year	Environmental Compliance Cost (\$/MTCO2e)	Carbon Intesity (MTCO2e/Dth)	Environmental Compliance Cost (\$/Dth)
1	2020			\$0.000
2	2021			\$0.000
3	2022			\$0.000
4	2023			\$0.000
5	2024			\$0.000
6	2025			\$0.000
7	2026			\$0.000
8	2027			\$0.000
9	2028			\$0.000
10	2029			\$0.000
11	2030			\$0.000
12	2031			\$0.000
13	2032			\$0.000
14	2033			\$0.000
15	2034			\$0.000
16	2035			\$0.000
17	2036			\$0.000
18	2037			\$0.000
19	2038			\$0.000
20	2039			\$0.000
21	2040			\$0.000
22	2041			\$0.000
23	2042			\$0.000
24	2043			\$0.000
25	2044			\$0.000
26	2045			\$0.000
27	2046			\$0.000
28	2047			\$0.000
29	2048			\$0.000
30	2049			\$0.000
31	2050			\$0.000
32	2051			\$0.000
33	2052			\$0.000
34	2053			\$0.000
35	2054			\$0.000
36	2055			\$0.000
37	2056			\$0.000
38	2057			\$0.000
39	2058			\$0.000
40	2059			\$0.000
41	2060			\$0.000
42	2061			\$0.000
43	2062			\$0.000
44	2063			\$0.000
45	2064			\$0.000

Alternative Submissions	<p align="center">Rationale for alternative submission: Provide an overall rationale for providing alternative values using this box</p>
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Infrastructure Capacity Cost Inputs

Real or Nominal?	
Source and Pg #:	
Source Link or File Name:	
Source Notes:	

Infrastructure Capacity Costs

Year #	Calendar Year	Infrastructure Capacity Costs		
		Supply (\$/Dth/Day)	Distribution Peak DAY (\$/Dth/Day)	Distribution Peak HOUR (\$/Dth/Hour)
1	2020			
2	2021			
3	2022			
4	2023			
5	2024			
6	2025			
7	2026			
8	2027			
9	2028			
10	2029			
11	2030			
12	2031			
13	2032			
14	2033			
15	2034			
16	2035			
17	2036			
18	2037			
19	2038			
20	2039			
21	2040			
22	2041			
23	2042			
24	2043			
25	2044			
26	2045			
27	2046			
28	2047			
29	2048			
30	2049			
31	2050			
32	2051			
33	2052			
34	2053			
35	2054			
36	2055			
37	2056			
38	2057			
39	2058			
40	2059			
41	2060			
42	2061			
43	2062			
44	2063			
45	2064			

Alternative Submissions	<p align="center">Rationale for alternative submission: <i>Provide an overall rationale for providing alternative values using this box</i></p>
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Risk Reduction Value Inputs

Real or Nominal?	
Source and Pg #:	
Source Link or File Name:	
Source Notes:	

No Data Entered

= Levelized Risk Reduction Value (for use when negative values occur in any years of the forecast period). If this value is negative, then zero will be assigned as the final value.

Risk Reduction Value

Year #	Calendar Year	Risk Reduction Value (\$/Dth)
1	2020	
2	2021	
3	2022	
4	2023	
5	2024	
6	2025	
7	2026	
8	2027	
9	2028	
10	2029	
11	2030	
12	2031	
13	2032	
14	2033	
15	2034	
16	2035	
17	2036	
18	2037	
19	2038	
20	2039	

