Appendix A
PacifiCorp
Avoided Cost (Partial Displacement Differential Revenue Requirement)
Model Updates through December 2014
Docket No. 03-035-14

GRID Scenario Study Period

January 1, 2016 through December 31, 2035 (20-year study)
Avoided cost prices starting in January 2016

Official Forward Price Curve (Gas and Electric Market Prices)

Updated to PacifiCorp's December 2014 Official Forward Price Curve (1412 OFPC)
OFPC reflecting the changes in forecasted prices and the impact of proposed Environmental Protection Agency regulation under Clean Air Act Section 111(d)

Fuel Prices (Coal)

Average and incremental coal costs based on forecast dated September 2014

Integrated Resource Plan (IRP) Resources

2013 IRP Update filed with Commission on March 31, 2014
Resource additions, including generating resources, DSM, and front office transactions (FOT), consistent with 2013 IRP Update
Transmission additions consistent with the 2013 IRP Update

Hydro Resources

2015 hydro forecast prepared July 2014
2015 hydro levels extended thereafter with known and measurable changes

Discount Rate

6.882% discount rate - 2013 IRP page 164
Discount rate is consistent with the Commission's order in Docket No. 11-035-T06

Inflation Rates

Company's inflation rate forecast dated December 2014

Levelized Prices (Nominal) @ 6.882% Discount Rate

20 years 2016 through 2035
Calculation Annually
Levelized prices are for illustrative purposes only

Load Forecast (Retail)

20-Year load forecast dated September 2014

Long-Term Contracts

Long-term contracts which have prices that are indexed to market are consistent with the 1412 OFPC
Contracts are modeled based on 48 months ended June 2014
Hermiston contract, which terminates July 2016, will not be renewed
Wind and solar generation profiles modeled hourly when data available
Roseburg Dillard QF contracted for 2015
Commercial Operation Date of seven signed contracts were revised

No.	Qualifying Facility	Revised Start Date	Prior Start Date
1	Utah Red Hills Solar	2015 12 31	2017 01 01
2	Mariah Wind	2017 07 01	2015 12 31
3	Orem Family Wind	2017 07 01	2015 12 31
4	Enterprise Solar I	2016 10 31	2016 01 01
5	Escalante Solar I	2016 10 31	2016 01 01
6	Escalante Solar II	2016 10 31	2016 01 01
7	Escalante Solar III	2016 10 31	2016 10 01

Market Capacity

Capacity set at 48 month average of all STF sales ended June 2014
Mid-Columbia and Palo Verde markets uncapped
Additional heavy load hour (HLH) and light load hour (LLH) sales limited to historical 48 month average less monthly executed STF contracts as of October 2014

Potential Environmental Costs

Potential environmental costs are excluded from fuel cost for net power costs and plant commitment and dispatch decisions.

Regulating Margin

Consistent with the 2014 Wind Integration Study
Regulation reserves starting at 432 aMW and increasing as necessary to provide wind integration

Increasing at 7.0 MW of regulation reserve per 100 MW of incremental east side wind
Reserve modeling reflects reliability Standard BAL-003-1 related to frequency response

Contingency Reserve Calculation

Reserve modeling reflects reliability Standard BAL-002-WECC-2 – contingency reserves set to 3% of retail load plus 3% of generating resources
Hourly retail load reserve calculation through 2016
Typical weekday retail load reserve calculation thereafter

Short-Term Firm (STF) Transactions

Executed STF contracts as of January 2015

Size of the Avoided Cost Resource

The avoided cost thermal resource is a 100 MW and 85% capacity factor thermal resource located in the Utah North transmission bubble

Thermal Resources

Thermal resource operating characteristics updated to be consistent with current Company official characteristics
Forced outage, planned outage, and heat rate levels based on 48 months ended June 2014

Wind and Solar Resources

Existing wind generation profiles modeled using 2013 actual generation shape
New wind and solar generation profiles modeled hourly when data available
Integration cost methodology pursuant to Commission orders in Docket No. 12-035-100 (issued August 16, 2013, and October 4, 2013)
Updated wind integration costs included in this filing: $3.66/MWh (2016-2035) on a 20-year nominal levelized
Solar integration costs set at $2.83 per megawatt hour for fixed solar resources and $2.18 per megawatt hour for tracking solar resources
Capacity contribution applied to renewable resources consistent with August 16, 2013, Commission order in Docket No. 12-035-100 (see table below)

Renewable Type	Capacity Contribution Percent of Nameplate
Wind	20.5%
Solar – Fixed base / Energy	68%
Solar – Peak oriented / Tracking	84%

Transmission

Short term transmission modeled based on 48 months ended June 2014
Energy Gateway transmission rights unchanged and modeled consistent with 2013 IRP Chapter 4
Energy Gateway transmission timing updated as listed in 2013 IRP Update page 21
Four transmission links were updated to reflect current transmission rights
Transmission topology includes Clover transmission bubble in Utah

IRP Partial Displacements (This Filing)

Base Case - Thermal partial displacement is 2,085.05 MW. Listed below are the QFs that have executed a power purchase agreement or are actively negotiating for a power purchase agreement.

QF Queue						
No.	**QF**	**Partial Displacement**	**Name plate**	**CF**	**Capacity Contribution**	**Start Date**
1	Utah Red Hills Solar	67.20	80.00	29.1%	84.0%	2015 12 31
2	Pavant Solar	42.00	50.00	28.7%	84.0%	2016 01 01
3	Mariah Wind	2.05	10.00	27.0%	20.5%	2017 07 01
4	Orem Family Wind	2.05	10.00	27.0%	20.5%	2017 07 01
5	Chopin Wind	2.05	10.00	38.6%	20.5%	2016 06 01
6	Warm Springs Hydro	2.70	2.70	24.9%	100.0%	2016 12 31
7	Pioneer Wind	16.40	80.00	40.7%	20.5%	2016 06 30
8	Milford 2 Solar	2.49	2.97	30.8%	84.0%	2015 10 15
9	Foote Creek II Wind	0.37	1.80	34.4%	20.6%	2014 06 18
10	Enterprise Solar I	67.20	80.00	30.7%	84.0%	2016 10 31
11	Escalante Solar I	67.20	80.00	29.7%	84.0%	2016 10 31
12	Escalante Solar II	67.20	80.00	29.7%	84.0%	2016 10 31
13	Escalante Solar III	67.20	80.00	29.6%	84.0%	2016 10 31
14	Foote Creek III Wind	5.07	24.75	34.4%	20.5%	2014 08 01
15	Oregon Solar b/4 July 2016	0.00	0.00	25.8%	84.0%	2016 07 01
16	Oregon Solar b/4 July 2017	57.54	68.50	25.8%	84.0%	2017 07 01
Total Signed MW		468.72	660.72			

1	QF - 82 - UT - Wind	16.24	79.20	33.8%	20.5%	2015 10 01
2	QF - 108 - UT - Solar	60.48	72.00	25.6%	84.0%	2016 12 31
3	QF - 109 - UT - Solar	42.34	50.40	31.4%	84.0%	2016 08 01
4	QF - 110 - UT - Solar	67.20	80.00	31.1%	84.0%	2016 09 01
5	QF - 114 - WY - Wind	12.30	60.00	45.2%	20.5%	2015 12 01
6	QF - 116 - UT - Solar	67.20	80.00	31.4%	84.0%	2016 08 15
7	QF - 118 - WY - Wind	16.40	80.00	45.4%	20.5%	2015 11 01
8	QF - 120 - UT - Solar	50.40	60.00	26.8%	84.0%	2017 01 01
9	QF - 122 - UT - Solar	34.00	50.00	20.2%	68.0%	2015 08 31
10	QF - 125 - UT - Wind	9.23	45.00	28.1%	20.5%	2015 11 01

11	QF - 127 - UT - Solar	67.20	80.00	25.6%	84.0%	2016 12 31
12	QF - 131 - UT - Solar	42.00	50.00	29.7%	84.0%	2016 12 01
13	QF - 132 - UT - Solar	67.20	80.00	32.4%	84.0%	2016 01 01
14	QF - 133 - UT - Solar	17.81	21.20	32.8%	84.0%	2016 01 01
15	QF - 136 - UT - Solar	33.60	40.00	29.0%	84.0%	2016 12 31
16	QF - 137 - UT - Solar	16.80	20.00	29.2%	84.0%	2016 12 31
17	QF - 138 - UT - Solar	6.80	10.00	25.2%	68.0%	2016 01 01
18	QF - 139 - WY - Wind	16.40	80.00	45.4%	20.5%	2015 11 01
19	QF - 140 - WY - Wind	16.40	80.00	45.4%	20.5%	2015 11 01
20	QF - 141 - UT - Solar	16.80	20.00	30.7%	84.0%	2016 10 01
21	QF - 142 - UT - Solar	67.20	80.00	31.3%	84.0%	2016 10 01
22	QF - 144 - UT - Solar	67.20	80.00	30.6%	84.0%	2016 11 01
23	QF - 145 - UT - Solar	67.20	80.00	30.1%	84.0%	2016 11 01
24	QF - 149 - UT - Solar	67.20	80.00	31.0%	84.0%	2018 01 01
25	QF - 150 - UT - Solar	67.20	80.00	31.0%	84.0%	2018 01 01
26	QF - 151 - UT - Solar	16.80	20.00	27.4%	84.0%	2016 12 31
27	QF - 155 - UT - Solar	27.20	40.00	26.4%	68.0%	2015 12 31
28	QF - 157 - UT - Solar	27.20	40.00	25.3%	68.0%	2015 12 31
29	QF - 160 - UT - Wind	16.40	80.00	39.3%	20.5%	2016 07 31
30	QF - 161 - UT - Solar	67.20	80.00	30.1%	84.0%	2016 11 01
31	QF - 162 - UT - Solar	67.20	80.00	30.6%	84.0%	2016 11 01
32	QF - 164 - UT - Solar	34.00	50.00	25.2%	68.0%	2016 12 31
33	QF - 166 - UT - Solar	54.40	80.00	25.2%	68.0%	2016 12 31
34	QF - 167 - UT - Wind	16.40	80.00	26.4%	20.5%	2018 01 01
35	QF - 168 - UT - Wind	16.40	80.00	27.5%	20.5%	2018 01 01
36	QF - 169 - UT - Solar	4.20	5.00	29.5%	84.0%	2015 12 31
37	QF - 170 - UT - Solar	4.08	6.00	25.0%	68.0%	2016 12 31
38	QF - 171 - UT - Solar	65.69	78.20	22.7%	84.0%	2016 12 31
39	QF - 174 - ID - Solar	16.80	20.00	23.2%	84.0%	2016 10 31
40	QF - 175 - ID - Solar	16.80	20.00	23.4%	84.0%	2016 10 31
41	QF - 177 - WY - Wind	16.40	80.00	40.7%	20.5%	2016 12 31
42	QF - 178 - UT - Wind	14.15	69.00	35.9%	20.5%	2016 12 31
43	QF - 179 - UT - Solar	54.40	80.00	27.8%	68.0%	2016 12 31
44	QF - 180 - WY - Wind	16.40	80.00	40.7%	20.5%	2016 12 31
45	QF - 181 - ID - Solar	14.28	21.00	27.0%	68.0%	2016 12 31
46	QF - 182 - OR - Solar	37.13	44.20	24.0%	84.0%	2016 11 01
Total Potential MW		1616.33	2671.20			

Total Partial Displacement	**2085.05**	**3331.92**

The partial displacement is shown below.

Displacement in Base Case

Year	Displaced Resource	2013 IRP Update Resource Size	Displacement MW	Remaining MW
2016	IRP FOT - Mona - Q3 HLH	0.0	0.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - COB - Q3 HLH	0.0	0.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	201.0	201.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	244.5	155.5
2017	IRP FOT - Mona - Q3 HLH	0.0	0.0	0.0
	IRP FOT - COB - Q3 HLH	0.0	0.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	331.0	331.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2018	IRP FOT - Mona - Q3 HLH	56.0	56.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - COB - Q3 HLH	0.0	0.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2019	IRP FOT - Mona - Q3 HLH	152.0	152.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - COB - Q3 HLH	0.0	0.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2020	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - Mona - Q3 HLH	89.0	89.0	0.0
	IRP FOT - COB - Q3 HLH	297.0	297.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2021	IRP FOT - Mid-C +10 - Q3 HLH	245.0	245.0	0.0
	IRP FOT - Mona - Q3 HLH	0.0	0.0	0.0
	IRP FOT - COB - Q3 HLH	297.0	297.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2022	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - Mona - Q3 HLH	0.0	0.0	0.0
	IRP FOT - COB - Q3 HLH	223.0	223.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2023	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - COB - Q3 HLH	297.0	297.0	0.0
	IRP FOT - Mona - Q3 HLH	38.0	38.0	0.0
2023	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2024	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - Mona - Q3 HLH	130.0	130.0	0.0
	IRP FOT - COB - Q3 HLH	297.0	297.0	0.0

Displacement in Base Case

Year	Displaced Resource	2013 IRP Update Resource Size	Displacement MW	Remaining MW
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2025	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - Mona - Q3 HLH	300.0	300.0	0.0
	IRP FOT - COB - Q3 HLH	297.0	297.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2026	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - COB - Q3 HLH	297.0	297.0	0.0
	IRP FOT - Mona - Q3 HLH	300.0	300.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2027	2027 CCCT (423 MW "J" 1x1)	423.0	423.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - Mona - Q3 HLH	105.0	105.0	0.0
	IRP FOT - COB - Q3 HLH	297.0	297.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2028	2027 CCCT (423 MW "J" 1x1)	423.0	423.0	0.0
	2028 CCCT (423 MW "J" 1x1)	423.0	423.0	0.0
	2028 CCCT (411 MW "J" 1x1)	411.0	411.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - Mona - Q3 HLH	194.0	194.0	0.0
	IRP FOT - COB - Q3 HLH	297.0	259.1	37.9
	IRP FOT - NOB - Q3 HLH	100.0	0.0	100.0
	IRP FOT - Mid-C - Q3 HLH	400.0	0.0	400.0
2029	2027 CCCT (423 MW "J" 1x1)	423.0	423.0	0.0
	2028 CCCT (423 MW "J" 1x1)	423.0	423.0	0.0
	2028 CCCT (411 MW "J" 1x1)	411.0	411.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - Mona - Q3 HLH	300.0	300.0	0.0
	IRP FOT - COB - Q3 HLH	297.0	153.1	143.9
	IRP FOT - NOB - Q3 HLH	100.0	0.0	100.0
	IRP FOT - Mid-C - Q3 HLH	400.0	0.0	400.0
2030	2027 CCCT (423 MW "J" 1x1)	423.0	423.0	0.0
	2028 CCCT (423 MW "J" 1x1)	423.0	423.0	0.0
	2028 CCCT (411 MW "J" 1x1)	411.0	411.0	0.0
	2030 CCCT (661 MW "FD" 2x1)	661.0	661.0	0.0
	2030 CCCT (368 MW "GH" 1x1)	368.0	167.1	201.0

Market FOTs are displaced based upon the year the FOT is available and from highest to lowest price.

Avoided Cost Case – A 100 MW 85% capacity factor (CF) avoided cost resource is added to the thermal resource queue.

QF Queue						
No.	**QF**	**Partial Displacement**	**Name plate**	**CF**	**Capacity Contribution**	**Start Date**
Total Partial Displacement in the Base Case as shown above		**2070.30**	**3182.4**			
	Utah 2014.Q3	100.00	100.00	85.0%	100.0%	2016 01 01
Partial Displacement after QF		**2170.30**	**3282.4**			

The Table below shows the resources that are displaced for the Avoided Cost Case which includes the 100 MW 85% capacity factor avoided cost resource.

Displacement in Avoided Cost Case

Year	Displaced Resource	2013 IRP Update Resource Size	Displacement MW	Remaining MW
2016	IRP FOT - Mona - Q3 HLH	0.0	0.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - COB - Q3 HLH	0.0	0.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	201.0	201.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	344.5	55.5
2017	IRP FOT - Mona - Q3 HLH	0.0	0.0	0.0
	IRP FOT - COB - Q3 HLH	0.0	0.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	331.0	331.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2018	IRP FOT - Mona - Q3 HLH	56.0	56.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - COB - Q3 HLH	0.0	0.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2019	IRP FOT - Mona - Q3 HLH	152.0	152.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - COB - Q3 HLH	0.0	0.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0

Displacement in Avoided Cost Case

Year	Displaced Resource	2013 IRP Update Resource Size	Displacement MW	Remaining MW
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2020	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - Mona - Q3 HLH	89.0	89.0	0.0
	IRP FOT - COB - Q3 HLH	297.0	297.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2021	IRP FOT - Mid-C +10 - Q3 HLH	245.0	245.0	0.0
	IRP FOT - Mona - Q3 HLH	0.0	0.0	0.0
	IRP FOT - COB - Q3 HLH	297.0	297.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2022	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - Mona - Q3 HLH	0.0	0.0	0.0
	IRP FOT - COB - Q3 HLH	223.0	223.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2023	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - COB - Q3 HLH	297.0	297.0	0.0
	IRP FOT - Mona - Q3 HLH	38.0	38.0	0.0
2023	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2024	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - Mona - Q3 HLH	130.0	130.0	0.0
	IRP FOT - COB - Q3 HLH	297.0	297.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2025	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - Mona - Q3 HLH	300.0	300.0	0.0
	IRP FOT - COB - Q3 HLH	297.0	297.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2026	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - COB - Q3 HLH	297.0	297.0	0.0
	IRP FOT - Mona - Q3 HLH	300.0	300.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2027	2027 CCCT (423 MW "J" 1x1)	423.0	423.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - Mona - Q3 HLH	105.0	105.0	0.0
	IRP FOT - COB - Q3 HLH	297.0	297.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2028	2027 CCCT (423 MW "J" 1x1)	423.0	423.0	0.0
	2028 CCCT (423 MW "J" 1x1)	423.0	423.0	0.0
	2028 CCCT (411 MW "J" 1x1)	411.0	411.0	0.0

Displacement in Avoided Cost Case

Year	Displaced Resource	2013 IRP Update Resource Size	Displacement MW	Remaining MW
	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - Mona - Q3 HLH	194.0	194.0	0.0
	IRP FOT - COB - Q3 HLH	297.0	297.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	62.1	37.9
	IRP FOT - Mid-C - Q3 HLH	400.0	0.0	400.0
2029	2027 CCCT (423 MW "J" 1x1)	423.0	423.0	0.0
	2028 CCCT (423 MW "J" 1x1)	423.0	423.0	0.0
	2028 CCCT (411 MW "J" 1x1)	411.0	411.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - Mona - Q3 HLH	300.0	300.0	0.0
	IRP FOT - COB - Q3 HLH	297.0	253.1	43.9
	IRP FOT - NOB - Q3 HLH	100.0	0.0	100.0
	IRP FOT - Mid-C - Q3 HLH	400.0	0.0	400.0
2030	2027 CCCT (423 MW "J" 1x1)	423.0	423.0	0.0
	2028 CCCT (423 MW "J" 1x1)	423.0	423.0	0.0
	2028 CCCT (411 MW "J" 1x1)	411.0	411.0	0.0
	2030 CCCT (661 MW "FD" 2x1)	661.0	661.0	0.0
	2030 CCCT (368 MW "GH" 1x1)	368.0	267.1	101.0

FOT displacement in early years reflects the start date timing of when signed and potential resources are available. Market FOTs are displaced based upon the year the FOT is available and from highest to lowest price.

IRP Partial Displacements (Previous Filing)

Base Case - Thermal partial displacement is 2,070.3 MW. Listed below are the QFs that have executed a power purchase agreement or are actively negotiating for a power purchase agreement.

QF Queue						
No.	QF	Partial Displacement	Name plate	CF	Capacity Contribution	Start Date
1	Utah Red Hills Solar	67.20	80.00	29.1%	84.0%	2017 01 01
2	Pavant Solar	42.00	50.00	28.7%	84.0%	2016 01 01
3	Mariah Wind	2.05	10.00	27.0%	20.5%	2015 12 31
4	Orem Family Wind	2.05	10.00	27.0%	20.5%	2015 12 31
5	Chopin Wind	2.05	10.00	38.6%	20.5%	2016 06 01
6	Warm Springs Hydro	2.70	2.70	24.9%	100.0%	2016 12 31
7	Pioneer Wind	16.40	80.00	40.7%	20.5%	2016 06 30
8	Milford 2 Solar	2.49	2.97	30.8%	84.0%	2015 10 15
9	Foote Creek II Wind	0.37	1.80	34.4%	20.6%	2014 06 18
10	Enterprise Solar I	67.20	80.00	30.7%	84.0%	2016 01 01

QF Queue						
No.	**QF**	**Partial Displacement**	**Name plate**	**CF**	**Capacity Contribution**	**Start Date**
11	Escalante Solar I	67.20	80.00	29.7%	84.0%	2016 01 01
12	Escalante Solar II	67.20	80.00	29.7%	84.0%	2016 01 01
13	Escalante Solar III	67.20	80.00	29.6%	84.0%	2016 10 01
14	Foote Creek III Wind	5.07	24.75	34.4%	20.5%	2014 08 01
15	Oregon Solar before July 2016	0.00	0.00	25.8%	84.0%	2016 07 01
16	Oregon Solar before July 2017	57.54	68.50	25.8%	84.0%	2017 07 01
Total Signed MW		468.72	660.72			

1	QF - 82 - UT - Wind	16.24	79.20	33.8%	20.5%	2015 10 01
2	QF - 108 - UT - Solar	60.48	72.00	25.6%	84.0%	2016 12 31
3	QF - 109 - UT - Solar	42.34	50.40	31.4%	84.0%	2016 08 01
4	QF - 110 - UT - Solar	67.20	80.00	31.1%	84.0%	2016 09 01
5	QF - 114 - WY - Wind	12.30	60.00	45.2%	20.5%	2015 12 01
6	QF - 116 - UT - Solar	67.20	80.00	31.4%	84.0%	2016 08 15
7	QF - 118 - WY - Wind	16.40	80.00	45.4%	20.5%	2015 11 01
8	QF - 120 - UT - Solar	50.40	60.00	26.8%	84.0%	2017 01 01
9	QF - 122 - UT - Solar	34.00	50.00	20.2%	68.0%	2015 08 31
10	QF - 125 - UT - Wind	9.23	45.00	28.1%	20.5%	2015 11 01
11	QF - 127 - UT - Solar	67.20	80.00	25.6%	84.0%	2016 12 31
12	QF - 131 - UT - Solar	42.00	50.00	29.7%	84.0%	2016 12 01
13	QF - 132 - UT - Solar	67.20	80.00	32.4%	84.0%	2016 01 01
14	QF - 133 - UT - Solar	17.81	21.20	32.8%	84.0%	2016 01 01
15	QF - 136 - UT - Solar	33.60	40.00	29.0%	84.0%	2016 12 31
16	QF - 137 - UT - Solar	16.80	20.00	29.2%	84.0%	2016 12 31
17	QF - 138 - UT - Solar	6.80	10.00	25.2%	68.0%	2016 01 01
18	QF - 139 - WY - Wind	16.40	80.00	45.4%	20.5%	2015 11 01
19	QF - 140 - WY - Wind	16.40	80.00	45.4%	20.5%	2015 11 01
20	QF - 141 - UT - Solar	16.80	20.00	30.7%	84.0%	2016 10 01
21	QF - 142 - UT - Solar	67.20	80.00	31.3%	84.0%	2016 10 01
22	QF - 144 - UT - Solar	67.20	80.00	30.6%	84.0%	2016 11 01
23	QF - 145 - UT - Solar	67.20	80.00	30.1%	84.0%	2016 11 01
24	QF - 149 - UT - Solar	67.20	80.00	31.0%	84.0%	2018 01 01
25	QF - 150 - UT - Solar	67.20	80.00	31.0%	84.0%	2018 01 01
26	QF - 151 - UT - Solar	16.80	20.00	27.4%	84.0%	2016 12 31
27	QF - 152 - WY - Hydro	2.90	2.90	38.3%	100.0%	2015 04 01
28	QF - 153 - UT - Solar	54.40	80.00	28.2%	68.0%	2015 12 31
29	QF - 154 - UT - Solar	54.40	80.00	28.2%	68.0%	2015 12 31
30	QF - 155 - UT - Solar	27.20	40.00	26.4%	68.0%	2015 12 31
31	QF - 156 - UT - Solar	54.40	80.00	26.4%	68.0%	2015 12 31
32	QF - 157 - UT - Solar	27.20	40.00	25.3%	68.0%	2015 12 31
33	QF - 158 - UT - Solar	27.20	40.00	28.0%	68.0%	2015 12 31
34	QF - 159 - UT - Solar	27.20	40.00	28.0%	68.0%	2015 12 31
35	QF - 160 - UT - Wind	16.40	80.00	39.3%	20.5%	2016 07 31
36	QF - 161 - UT - Solar	67.20	80.00	30.1%	84.0%	2016 11 01
37	QF - 162 - UT - Solar	67.20	80.00	30.6%	84.0%	2016 11 01

QF Queue						
No.	**QF**	**Partial Displacement**	**Name plate**	**CF**	**Capacity Contribution**	**Start Date**
38	QF - 163 - UT - Solar	16.80	20.00	32.6%	84.0%	2016 04 01
39	QF - 164 - UT - Solar	34.00	50.00	25.2%	68.0%	2016 12 31
40	QF - 166 - UT - Solar	54.40	80.00	25.2%	68.0%	2016 12 31
41	QF - 167 - UT - Wind	16.40	80.00	26.4%	20.5%	2018 01 01
42	QF - 168 - UT - Wind	16.40	80.00	27.5%	20.5%	2018 01 01
43	QF - 169 - UT - Solar	4.20	5.00	29.5%	84.0%	2015 12 31
44	QF - 170 - UT - Solar	4.08	6.00	25.0%	68.0%	2016 12 31
Total Potential MW		1601.58	2521.7			

Total Partial Displacement	**2070.30**	**3182.4**	

The partial displacement is shown below.

Displacement in Base Case

Year	Displaced Resource	2013 IRP Update Resource Size	Displacement MW	Remaining MW
2016	IRP FOT - Mona - Q3 HLH	0.0	0.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - COB - Q3 HLH	0.0	0.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	201.0	201.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2017	IRP FOT - Mona - Q3 HLH	0.0	0.0	0.0
	IRP FOT - COB - Q3 HLH	0.0	0.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	331.0	331.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2018	IRP FOT - Mona - Q3 HLH	56.0	56.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - COB - Q3 HLH	0.0	0.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2019	IRP FOT - Mona - Q3 HLH	152.0	152.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - COB - Q3 HLH	0.0	0.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2020	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - Mona - Q3 HLH	89.0	89.0	0.0
	IRP FOT - COB - Q3 HLH	297.0	297.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2021	IRP FOT - Mid-C +10 - Q3 HLH	245.0	245.0	0.0
	IRP FOT - Mona - Q3 HLH	0.0	0.0	0.0
	IRP FOT - COB - Q3 HLH	297.0	297.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2022	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - Mona - Q3 HLH	0.0	0.0	0.0
	IRP FOT - COB - Q3 HLH	223.0	223.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2023	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - COB - Q3 HLH	297.0	297.0	0.0
	IRP FOT - Mona - Q3 HLH	38.0	38.0	0.0
2023	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2024	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - Mona - Q3 HLH	130.0	130.0	0.0
	IRP FOT - COB - Q3 HLH	297.0	297.0	0.0

Displacement in Base Case

Year	Displaced Resource	2013 IRP Update Resource Size	Displacement MW	Remaining MW
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2025	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - Mona - Q3 HLH	300.0	300.0	0.0
	IRP FOT - COB - Q3 HLH	297.0	297.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2026	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - COB - Q3 HLH	297.0	297.0	0.0
	IRP FOT - Mona - Q3 HLH	300.0	300.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2027	2027 CCCT (423 MW "J" 1x1)	423.0	423.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - Mona - Q3 HLH	105.0	105.0	0.0
	IRP FOT - COB - Q3 HLH	297.0	297.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2028	2027 CCCT (423 MW "J" 1x1)	423.0	423.0	0.0
	2028 CCCT (423 MW "J" 1x1)	423.0	423.0	0.0
	2028 CCCT (411 MW "J" 1x1)	411.0	411.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - Mona - Q3 HLH	194.0	194.0	0.0
	IRP FOT - COB - Q3 HLH	297.0	244.3	52.7
	IRP FOT - NOB - Q3 HLH	100.0	0.0	100.0
	IRP FOT - Mid-C - Q3 HLH	400.0	0.0	400.0
2029	2027 CCCT (423 MW "J" 1x1)	423.0	423.0	0.0
	2028 CCCT (423 MW "J" 1x1)	423.0	423.0	0.0
	2028 CCCT (411 MW "J" 1x1)	411.0	411.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - Mona - Q3 HLH	300.0	300.0	0.0
	IRP FOT - COB - Q3 HLH	297.0	138.3	158.7
	IRP FOT - NOB - Q3 HLH	100.0	0.0	100.0
	IRP FOT - Mid-C - Q3 HLH	400.0	0.0	400.0
2030	2027 CCCT (423 MW "J" 1x1)	423.0	423.0	0.0
	2028 CCCT (423 MW "J" 1x1)	423.0	423.0	0.0
	2028 CCCT (411 MW "J" 1x1)	411.0	411.0	0.0
	2030 CCCT (661 MW "FD" 2x1)	661.0	661.0	0.0
	2030 CCCT (368 MW "GH" 1x1)	368.0	152.3	215.7

Market FOTs are displaced based upon the year the FOT is available and from highest to lowest price.

Avoided Cost Case – A 100 MW 85% capacity factor (CF) avoided cost resource is added to the thermal resource queue.

QF Queue						
No.	**QF**	**Partial Displacement**	**Name plate**	**CF**	**Capacity Contribution**	**Start Date**
Total Partial Displacement in the Base Case as shown above		**2070.30**	**3182.4**			
	Utah 2014.Q3	100.00	100.00	85.0%	100.0%	2016 01 01
Partial Displacement after QF		**2170.30**	**3282.4**			

The Table below shows the resources that are displaced for the Avoided Cost Case which includes the 100 MW 85% capacity factor avoided cost resource.

Displacement in Avoided Cost Case

Year	Displaced Resource	2013 IRP Update Resource Size	Displacement MW	Remaining MW
2016	IRP FOT - Mona - Q3 HLH	0.0	0.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - COB - Q3 HLH	0.0	0.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	201.0	201.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2017	IRP FOT - Mona - Q3 HLH	0.0	0.0	0.0
	IRP FOT - COB - Q3 HLH	0.0	0.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	331.0	331.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2018	IRP FOT - Mona - Q3 HLH	56.0	56.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - COB - Q3 HLH	0.0	0.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2019	IRP FOT - Mona - Q3 HLH	152.0	152.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - COB - Q3 HLH	0.0	0.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0

Displacement in Avoided Cost Case

Year	Displaced Resource	2013 IRP Update Resource Size	Displacement MW	Remaining MW
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2020	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - Mona - Q3 HLH	89.0	89.0	0.0
	IRP FOT - COB - Q3 HLH	297.0	297.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2021	IRP FOT - Mid-C +10 - Q3 HLH	245.0	245.0	0.0
	IRP FOT - Mona - Q3 HLH	0.0	0.0	0.0
	IRP FOT - COB - Q3 HLH	297.0	297.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2022	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - Mona - Q3 HLH	0.0	0.0	0.0
	IRP FOT - COB - Q3 HLH	223.0	223.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2023	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - COB - Q3 HLH	297.0	297.0	0.0
	IRP FOT - Mona - Q3 HLH	38.0	38.0	0.0
2023	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2024	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - Mona - Q3 HLH	130.0	130.0	0.0
	IRP FOT - COB - Q3 HLH	297.0	297.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2025	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - Mona - Q3 HLH	300.0	300.0	0.0
	IRP FOT - COB - Q3 HLH	297.0	297.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2026	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - COB - Q3 HLH	297.0	297.0	0.0
	IRP FOT - Mona - Q3 HLH	300.0	300.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2027	2027 CCCT (423 MW "J" 1x1)	423.0	423.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - Mona - Q3 HLH	105.0	105.0	0.0
	IRP FOT - COB - Q3 HLH	297.0	297.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2028	2027 CCCT (423 MW "J" 1x1)	423.0	423.0	0.0
	2028 CCCT (423 MW "J" 1x1)	423.0	423.0	0.0
	2028 CCCT (411 MW "J" 1x1)	411.0	411.0	0.0

Displacement in Avoided Cost Case

Year	Displaced Resource	2013 IRP Update Resource Size	Displacement MW	Remaining MW
	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - Mona - Q3 HLH	194.0	194.0	0.0
	IRP FOT - COB - Q3 HLH	297.0	297.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	47.3	52.7
	IRP FOT - Mid-C - Q3 HLH	400.0	0.0	400.0
2029	2027 CCCT (423 MW "J" 1x1)	423.0	423.0	0.0
	2028 CCCT (423 MW "J" 1x1)	423.0	423.0	0.0
	2028 CCCT (411 MW "J" 1x1)	411.0	411.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - Mona - Q3 HLH	300.0	300.0	0.0
	IRP FOT - COB - Q3 HLH	297.0	238.3	58.7
	IRP FOT - NOB - Q3 HLH	100.0	0.0	100.0
	IRP FOT - Mid-C - Q3 HLH	400.0	0.0	400.0
2030	2027 CCCT (423 MW "J" 1x1)	423.0	423.0	0.0
	2028 CCCT (423 MW "J" 1x1)	423.0	423.0	0.0
	2028 CCCT (411 MW "J" 1x1)	411.0	411.0	0.0
	2030 CCCT (661 MW "FD" 2x1)	661.0	661.0	0.0
	2030 CCCT (368 MW "GH" 1x1)	368.0	252.3	115.7

FOT displacement in early years reflects the start date timing of when signed and potential resources are available. Market FOTs are displaced based upon the year the FOT is available and from highest to lowest price.