

Appendix A
PacifiCorp
Avoided Cost (GRID and Differential Revenue Requirement)
Model Updates through July 2014
Docket No. 03-035-14

GRID Scenario Study Period

January 1, 2015 through December 31, 2034 (20-year study)
Avoided Cost prices starting in January 2015

Official Forward Price Curve (Gas and Market Prices)

Updated to PacifiCorp's June 2014 Official Forward Price Curve (1406 OFPC)
Adjusted to remove the impact of carbon tax

Fuel Prices (Coal)

Average and incremental coal costs based on forecast dated January 2013

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 June 2014

Levelized Prices (Nominal) @ 6.882% Discount Rate

20 years 2015 through 2034

Levelized prices are for illustrative purposes only

Load Forecast (Retail)

20-Year load forecast dated May 2014

Long-Term Contracts

Long-term contracts which have prices that are indexed to market are consistent with the 1406 OFPC

Contracts are modeled based on 48 months ended December 2013

Wind and solar generation profiles modeled hourly when data available

New signed QF contracts include:

Pavant Solar	50.0 MW	Start Date	2016 Jan
Mariah Wind	10.0 MW	Start Date	2015 Dec
Orem Family Wind	10.0 MW	Start Date	2015 Dec
Chopin Wind	10.0 MW	Start Date	2016 Jun
Warm Springs Hydro	2.7 MW	Start Date	2016 Dec
Pioneer Wind	80.0 MW	Start Date	2016 Jun
Milford 2 Solar	3.0 MW	Start Date	2015 Oct
Foote Creek II Wind	1.8 MW	Start Date	2014 Jun
Enterprise Solar I	80.0 MW	Start Date	2016 Jan
Escalante Solar I	80.0 MW	Start Date	2016 Jan
Escalante Solar II	80.0 MW	Start Date	2016 Jan
Escalante Solar III	80.0 MW	Start Date	2016 Oct

Two contracts included in the 2014.Q1 filing were removed

Long Ridge Wind I
Long Ridge Wind II

Market Capacity

Capacity set at 48 month average of all STF sales ended December 2013

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 July 2014

Potential Environmental Costs

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

Regulating Margin

Consistent with the 2012 Wind Integration Study

Regulation reserves starting at 451 aMW in 2013 and increasing as necessary to provide wind integration
Increasing at 8.2 MW of regulation reserve per 100 MW of incremental wind
West to east ready reserve transfer capability set to zero
Reserve modeling updated to reflect reliability Standard BAL-003-1 related to frequency response

Contingency Reserve Calculation

Reserve modeling updated to reflect 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

Updated to include executed STF contracts as of July 2014

Size of the Avoided Cost Resource

The size and location of the avoided cost resource has not changed
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 December 2013
Naughton Unit 3 converted to natural-gas-fired unit in 2018
Extended Lake Side 1 and Lake Side 2 screens, which required the plants to cycle off for six hours every night, from 2022 through 2027

Wind and Solar Resources

Existing wind and solar 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: \$3.09/MWh (2015-2034) 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%

Topology

Revised topology to add Clover transmission bubble to reflect potential transmission constraint in Utah
 Clover bubble is located between Utah North and Utah South

Transmission

Short term transmission modeled based on 48 months ended December 2013
 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 updated to reflect topology including Clover transmission bubble

IRP Partial Displacements (This Filing)

Base Case - Thermal partial displacement is 1,617.18 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
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
Total Signed MW		406.11	567.47			
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%	2017 01 01
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 - 113 - WY - Wind	5.07	24.75	34.4%	20.5%	2014 08 01
6	QF - 114 - WY - Wind	12.30	60.00	45.2%	20.5%	2015 12 01
7	QF - 116 - UT - Solar	67.20	80.00	31.4%	84.0%	2016 08 15
8	QF - 118 - WY - Wind	16.40	80.00	45.4%	20.5%	2015 11 01
9	QF - 120 - UT - Solar	50.40	60.00	26.8%	84.0%	2017 01 01
10	QF - 121 - ID - Solar	50.40	60.00	23.2%	84.0%	2016 01 01
11	QF - 122 - UT - Solar	34.00	50.00	20.2%	68.0%	2015 09 01
12	QF - 125 - UT - Wind	9.23	45.00	28.1%	20.5%	2015 11 01
13	QF - 127 - UT - Solar	67.20	80.00	25.6%	84.0%	2017 01 01
14	QF - 131 - UT - Solar	42.00	50.00	29.7%	84.0%	2016 12 01
15	QF - 132 - UT - Solar	67.20	80.00	32.4%	84.0%	2016 01 01
16	QF - 133 - UT - Solar	17.81	21.20	32.8%	84.0%	2016 01 01
17	QF - 136 - UT - Solar	33.60	40.00	29.0%	84.0%	2016 12 31
18	QF - 137 - UT - Solar	16.80	20.00	29.2%	84.0%	2016 12 31
19	QF - 138 - UT - Solar	6.80	10.00	25.2%	68.0%	2016 01 01
20	QF - 139 - WY - Wind	16.40	80.00	45.4%	20.5%	2015 11 01
21	QF - 140 - WY - Wind	16.40	80.00	45.4%	20.5%	2015 11 01
22	QF - 141 - UT - Solar	16.80	20.00	30.7%	84.0%	2016 10 01
23	QF - 142 - UT - Solar	67.20	80.00	31.3%	84.0%	2016 10 01
24	QF - 143 - UT - Solar	67.20	80.00	31.6%	84.0%	2016 11 01
25	QF - 144 - UT - Solar	67.20	80.00	30.6%	84.0%	2016 11 01
26	QF - 145 - UT - Solar	67.20	80.00	30.1%	84.0%	2016 11 01
27	QF - 146 - OR - Solar	16.80	20.00	28.6%	84.0%	2016 12 31
28	QF - 147 - OR - Solar	42.00	50.00	28.6%	84.0%	2016 12 31
29	QF - 148 - OR - Solar	16.80	20.00	28.0%	84.0%	2016 12 31
30	QF - 149 - UT - Solar	67.20	80.00	31.0%	84.0%	2018 01 01
31	QF - 150 - UT - Solar	67.20	80.00	31.0%	84.0%	2018 01 01
Total Potential MW		1211.07	1792.55			
Total Partial Displacement		1617.18	2360.02			

The partial displacement is shown below.

Displacement in Base Case				
Year	Displaced Resource	2013 IRP Update Resource Size	Displacement MW	Remaining MW
2015	IRP FOT - Mona - Q3 HLH	0.0	0.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	5.4	94.6
	IRP FOT - COB - Q3 HLH	0.0	0.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	83.0	0.0	83.0
	IRP FOT - Mid-C - Q3 HLH	400.0	0.0	400.0
2016	IRP FOT - Mona - Q3 HLH	0.0	0.0	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 +10 - Q3 HLH	201.0	201.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	236.3	163.7
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 - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	331.0	331.0	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 - COB - Q3 HLH	0.0	0.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	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 - COB - Q3 HLH	0.0	0.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	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 - Mona - Q3 HLH	89.0	89.0	0.0
	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 - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2021	IRP FOT - Mona - Q3 HLH	0.0	0.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	245.0	245.0	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 - Mona - Q3 HLH	0.0	0.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	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 - Mona - Q3 HLH	38.0	38.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - COB - Q3 HLH	297.0	297.0	0.0

Displacement in Base Case				
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Year	Displaced Resource	2013 IRP Update Resource Size	Displacement MW	Remaining MW
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 - Mona - Q3 HLH	130.0	130.0	0.0
	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 - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2025	IRP FOT - Mona - Q3 HLH	300.0	300.0	0.0
	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 - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2026	IRP FOT - Mona - Q3 HLH	300.0	300.0	0.0
	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 - 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 - Mona - Q3 HLH	105.0	105.0	0.0
	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 - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	317.2	82.8
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 - Mona - Q3 HLH	194.0	194.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	375.0	166.2	208.8
	IRP FOT - COB - Q3 HLH	297.0	0.0	297.0
	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 - Mona - Q3 HLH	300.0	300.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	375.0	60.2	314.8
	IRP FOT - COB - Q3 HLH	297.0	0.0	297.0
	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 "J" 1x1)	661.0	360.2	300.8

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.

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		1617.18	2360.02			
32	Utah 2014.Q2	100.00	100.00	85.0%	100.0%	2015 01 01
Partial Displacement after QF		1717.18				

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
2015	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	83.0	5.4	77.6
	IRP FOT - Mid-C - Q3 HLH	400.0	0.0	400.0
2016	IRP FOT - Mona - Q3 HLH	0.0	0.0	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 +10 - Q3 HLH	201.0	201.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	336.3	63.7
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 - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	331.0	331.0	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 - COB - Q3 HLH	0.0	0.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	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 - COB - Q3 HLH	0.0	0.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	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 - Mona - Q3 HLH	89.0	89.0	0.0
	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 - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2021	IRP FOT - Mona - Q3 HLH	0.0	0.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	245.0	245.0	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 - Mona - Q3 HLH	0.0	0.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	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 - Mona - Q3 HLH	38.0	38.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0

Displacement in Avoided Cost Case				
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Year	Displaced Resource	2013 IRP Update Resource Size	Displacement MW	Remaining MW
2023	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
2024	IRP FOT - Mona - Q3 HLH	130.0	130.0	0.0
	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 - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2025	IRP FOT - Mona - Q3 HLH	300.0	300.0	0.0
	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 - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	400.0	0.0
2026	IRP FOT - Mona - Q3 HLH	300.0	300.0	0.0
	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 - 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 - Mona - Q3 HLH	105.0	105.0	0.0
	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 - 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 - Mona - Q3 HLH	194.0	194.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	375.0	266.2	108.8
	IRP FOT - COB - Q3 HLH	297.0	0.0	297.0
	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 - Mona - Q3 HLH	300.0	300.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	375.0	160.2	214.8
	IRP FOT - COB - Q3 HLH	297.0	0.0	297.0
	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 "J" 1x1)	661.0	460.2	200.8

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 885.24 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	Columbia Biogas	3.00	3.00	45.7%	100.0%	2015 03 01
2	EBD Hydro	3.00	3.00	39.1%	100.0%	2014 04 01
3	TMF Biofuels	4.80	4.80	88.5%	100.0%	2012 12 31
4	Utah Sch 37 Solar (b/4 2015.Q3)	9.32	11.10	31.2%	84.0%	2015 06 30
	Utah Sch 37 Solar (b/4 2016.Q3)	24.53	29.20	31.2%	84.0%	2016 06 30
	Utah Sch 37 Solar (b/4 2017.Q3)	2.52	3.00	31.2%	84.0%	2017 06 30
5	Champlin Blue Mtn Wind	16.40	80.00	35.6%	20.5%	2015 11 30
6	Long Ridge Wind I	16.38	79.90	34.3%	20.5%	2015 12 31
7	Long Ridge Wind II	16.38	79.90	34.3%	20.5%	2015 12 31
8	Latigo Wind Park	12.30	60.00	33.8%	20.5%	2015 05 01
9	Utah Red Hills Solar	67.20	80.00	29.1%	84.0%	2017 01 01
Total Signed MW		175.83	433.90			
1	QF - 82 - UT - Wind	16.24	79.20	33.8%	20.5%	2015 10 01
2	QF - 84 - WY - Wind	16.40	80.00	40.7%	20.5%	2015 03 01
3	QF - 86 - OR - Wind	16.40	80.00	33.9%	20.5%	2015 01 01
4	QF - 88 - OR - Solar	67.20	80.00	28.0%	84.0%	2017 01 01
5	QF - 90 - UT - Solar	3.36	4.00	25.2%	84.0%	2015 07 31
6	QF - 91 - UT - Solar	67.20	80.00	30.7%	84.0%	2016 01 01
7	QF - 92 - UT - Solar	67.20	80.00	29.7%	84.0%	2016 01 01
8	QF - 93 - UT - Solar	67.20	80.00	29.7%	84.0%	2016 01 01
9	QF - 99 - UT - Solar	42.00	50.00	28.7%	84.0%	2016 01 01
10	QF - 102 - UT - Wind	2.46	12.00	33.2%	20.5%	2014 09 01
11	QF - 103 - OR - Wind	2.05	10.00	27.0%	20.5%	2015 12 31
12	QF - 104 - OR - Wind	2.05	10.00	27.0%	20.5%	2015 12 31
13	QF - 109 - UT - Solar	42.34	50.40	31.4%	84.0%	2016 08 01
14	QF - 110 - UT - Solar	67.20	80.00	31.1%	84.0%	2016 09 01
15	QF - 113 - WY - Wind	5.07	24.75	35.9%	20.5%	2014 08 01
16	QF - 114 - WY - Wind	12.30	60.00	45.2%	20.5%	2015 12 01
17	QF - 115 - OR - Geothermal	2.70	2.70	84.5%	100.0%	2014 03 01
18	QF - 116 - UT - Solar	67.20	80.00	31.4%	84.0%	2016 08 15
19	QF - 117 - UT - Solar	8.84	13.00	19.4%	68.0%	2015 01 01
20	QF - 118 - WY - Wind	16.40	80.00	45.4%	20.5%	2015 11 01
21	QF - 119 - UT - Solar	67.20	80.00	29.8%	84.0%	2016 10 01
22	QF - 120 - UT - Solar	50.40	60.00	26.8%	84.0%	2017 01 01
Total Potential MW		709.41	1176.05			
Total Partial Displacement		885.24				

The partial displacement is shown below.

Displacement in Base Case				
Year	Displaced Resource	2013 IRP Resource Size	Displacement MW	Remaining MW
2015	IRP FOT - Mona - Q3 HLH	0.0	0.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	84.3	15.7
	IRP FOT - Mid-C +10 - Q3 HLH	98.0	0.0	98.0
	IRP FOT - COB - Q3 HLH	247.0	0.0	247.0
	IRP FOT - Mid-C - Q3 HLH	400.0	0.0	400.0
2016	IRP FOT - COB - Q3 HLH	262.0	262.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mona - Q3 HLH	0.0	0.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	221.0	92.0	129.0
	IRP FOT - Mid-C - Q3 HLH	400.0	0.0	400.0
2017	IRP FOT - COB - Q3 HLH	297.0	297.0	0.0
	IRP FOT - Mona - Q3 HLH	0.0	0.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	305.0	305.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	183.2	216.8
2018	IRP FOT - Mona - Q3 HLH	37.0	37.0	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 +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	76.2	323.8
2019	IRP FOT - COB - Q3 HLH	297.0	297.0	0.0
	IRP FOT - Mona - Q3 HLH	151.0	151.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	62.2	37.8
	IRP FOT - Mid-C - Q3 HLH	400.0	0.0	400.0
2020	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - Mona - Q3 HLH	248.0	248.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - COB - Q3 HLH	297.0	162.2	134.8
	IRP FOT - Mid-C - Q3 HLH	400.0	0.0	400.0
2021	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - Mona - Q3 HLH	19.0	19.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	391.2	8.8
	IRP FOT - COB - Q3 HLH	297.0	0.0	297.0

Displacement in Base Case - Continued

Year	Displaced Resource	2013 IRP Resource Size	Displacement MW	Remaining MW
2022	IRP FOT - Mona - Q3 HLH	161.0	161.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - COB - Q3 HLH	297.0	249.2	47.8
	IRP FOT - Mid-C - Q3 HLH	400.0	0.0	400.0
2023	IRP FOT - Mona - Q3 HLH	255.0	255.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - COB - Q3 HLH	297.0	155.2	141.8
	IRP FOT - Mid-C - Q3 HLH	400.0	0.0	400.0
2024	2024 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	0.0	0.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	87.2	12.8
	IRP FOT - COB - Q3 HLH	237.0	0.0	237.0
	IRP FOT - Mid-C - Q3 HLH	400.0	0.0	400.0
2025	2024 CCCT (423 MW "J" 1x1)	423.0	423.0	0.0
	IRP FOT - Mona - Q3 HLH	132.0	132.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	375.0	330.2	44.8
	IRP FOT - NOB - Q3 HLH	100.0	0.0	100.0
	IRP FOT - COB - Q3 HLH	297.0	0.0	297.0
	IRP FOT - Mid-C - Q3 HLH	400.0	0.0	400.0
2026	2024 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	253.0	87.2	165.8
	IRP FOT - NOB - Q3 HLH	100.0	0.0	100.0
	IRP FOT - COB - Q3 HLH	297.0	0.0	297.0
	IRP FOT - Mid-C - Q3 HLH	400.0	0.0	400.0
2027	2024 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	297.0	87.2	209.8
	IRP FOT - NOB - Q3 HLH	100.0	0.0	100.0
	IRP FOT - COB - Q3 HLH	297.0	0.0	297.0
	IRP FOT - Mid-C - Q3 HLH	400.0	0.0	400.0
2028	2024 CCCT (423 MW "J" 1x1)	423.0	423.0	0.0
	2028 CCCT (661 MW "F" 2x1)	661.0	462.2	198.8

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.

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
1	Columbia Biogas	3.00	3.00	45.7%	100.0%	2015 03 01
2	EBD Hydro	3.00	3.00	39.1%	100.0%	2014 04 01
3	TMF Biofuels	4.80	4.80	88.5%	100.0%	2012 12 31
4	Utah Sch 37 Solar (b/4 2015.Q3)	9.32	11.10	31.2%	84.0%	2015 06 30
	Utah Sch 37 Solar (b/4 2016.Q3)	24.53	29.20	31.2%	84.0%	2016 06 30
	Utah Sch 37 Solar (b/4 2017.Q3)	2.52	3.00	31.2%	84.0%	2017 06 30
5	Champlin Blue Mtn Wind	16.40	80.00	35.6%	20.5%	2015 11 30
6	Long Ridge Wind I	16.38	79.90	34.3%	20.5%	2015 12 31
7	Long Ridge Wind II	16.38	79.90	34.3%	20.5%	2015 12 31
8	Latigo Wind Park	12.30	60.00	33.8%	20.5%	2015 05 01
9	Utah Red Hills Solar	67.20	80.00	29.1%	84.0%	2017 01 01
Total Signed MW		175.83	433.90			
1	QF - 82 - UT - Wind	16.24	79.20	33.8%	20.5%	2015 10 01
2	QF - 84 - WY - Wind	16.40	80.00	40.7%	20.5%	2015 03 01
3	QF - 86 - OR - Wind	16.40	80.00	33.9%	20.5%	2015 01 01
4	QF - 88 - OR - Solar	67.20	80.00	28.0%	84.0%	2017 01 01
5	QF - 90 - UT - Solar	3.36	4.00	25.2%	84.0%	2015 07 31
6	QF - 91 - UT - Solar	67.20	80.00	30.7%	84.0%	2016 01 01
7	QF - 92 - UT - Solar	67.20	80.00	29.7%	84.0%	2016 01 01
8	QF - 93 - UT - Solar	67.20	80.00	29.7%	84.0%	2016 01 01
9	QF - 99 - UT - Solar	42.00	50.00	28.7%	84.0%	2016 01 01
10	QF - 102 - UT - Wind	2.46	12.00	33.2%	20.5%	2014 09 01
11	QF - 103 - OR - Wind	2.05	10.00	27.0%	20.5%	2015 12 31
12	QF - 104 - OR - Wind	2.05	10.00	27.0%	20.5%	2015 12 31
13	QF - 109 - UT - Solar	42.34	50.40	31.4%	84.0%	2016 08 01
14	QF - 110 - UT - Solar	67.20	80.00	31.1%	84.0%	2016 09 01
15	QF - 113 - WY - Wind	5.07	24.75	35.9%	20.5%	2014 08 01
16	QF - 114 - WY - Wind	12.30	60.00	45.2%	20.5%	2015 12 01
17	QF - 115 - OR - Geothermal	2.70	2.70	84.5%	100.0%	2014 03 01
18	QF - 116 - UT - Solar	67.20	80.00	31.4%	84.0%	2016 08 15
19	QF - 117 - UT - Solar	8.84	13.00	19.4%	68.0%	2015 01 01
20	QF - 118 - WY - Wind	16.40	80.00	45.4%	20.5%	2015 11 01
21	QF - 119 - UT - Solar	67.20	80.00	29.8%	84.0%	2016 10 01
22	QF - 120 - UT - Solar	50.40	60.00	26.8%	84.0%	2017 01 01
Total Potential MW		709.41	1176.05			
Total Partial Displacement		885.24				
23	Avoided Cost Resource	100.00	100.0	85.0%	100.0%	2015 01 01
Partial Displacement after QF		985.24				

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 Resource Size	Displacement MW	Remaining MW
2015	IRP FOT - Mona - Q3 HLH	0.0	0.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	98.0	84.3	13.7
	IRP FOT - COB - Q3 HLH	247.0	0.0	247.0
	IRP FOT - Mid-C - Q3 HLH	400.0	0.0	400.0
2016	IRP FOT - COB - Q3 HLH	262.0	262.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mona - Q3 HLH	0.0	0.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	221.0	192.0	29.0
	IRP FOT - Mid-C - Q3 HLH	400.0	0.0	400.0
2017	IRP FOT - COB - Q3 HLH	297.0	297.0	0.0
	IRP FOT - Mona - Q3 HLH	0.0	0.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	305.0	305.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	283.2	116.8
2018	IRP FOT - Mona - Q3 HLH	37.0	37.0	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 +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	176.2	223.8
2019	IRP FOT - COB - Q3 HLH	297.0	297.0	0.0
	IRP FOT - Mona - Q3 HLH	151.0	151.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	62.2	337.8
2020	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - Mona - Q3 HLH	248.0	248.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - COB - Q3 HLH	297.0	262.2	34.8
	IRP FOT - Mid-C - Q3 HLH	400.0	0.0	400.0
2021	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - Mona - Q3 HLH	19.0	19.0	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
	IRP FOT - COB - Q3 HLH	297.0	91.2	205.8

Displacement in Avoided Cost Case - Continued

Year	Displaced Resource	2013 IRP Resource Size	Displacement MW	Remaining MW
2022	IRP FOT - Mona - Q3 HLH	161.0	161.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - COB - Q3 HLH	297.0	297.0	0.0
	IRP FOT - Mid-C - Q3 HLH	400.0	52.2	347.8
2023	IRP FOT - Mona - Q3 HLH	255.0	255.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - COB - Q3 HLH	297.0	255.2	41.8
	IRP FOT - Mid-C - Q3 HLH	400.0	0.0	400.0
2024	2024 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	0.0	0.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	100.0	0.0
	IRP FOT - COB - Q3 HLH	237.0	87.2	149.8
	IRP FOT - Mid-C - Q3 HLH	400.0	0.0	400.0
2025	2024 CCCT (423 MW "J" 1x1)	423.0	423.0	0.0
	IRP FOT - Mona - Q3 HLH	132.0	132.0	0.0
	IRP FOT - Mid-C +10 - Q3 HLH	375.0	375.0	0.0
	IRP FOT - NOB - Q3 HLH	100.0	55.2	44.8
	IRP FOT - COB - Q3 HLH	297.0	0.0	297.0
	IRP FOT - Mid-C - Q3 HLH	400.0	0.0	400.0
2026	2024 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	253.0	187.2	65.8
	IRP FOT - NOB - Q3 HLH	100.0	0.0	100.0
	IRP FOT - COB - Q3 HLH	297.0	0.0	297.0
	IRP FOT - Mid-C - Q3 HLH	400.0	0.0	400.0
2027	2024 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	297.0	187.2	109.8
	IRP FOT - NOB - Q3 HLH	100.0	0.0	100.0
	IRP FOT - COB - Q3 HLH	297.0	0.0	297.0
	IRP FOT - Mid-C - Q3 HLH	400.0	0.0	400.0
2028	2024 CCCT (423 MW "J" 1x1)	423.0	423.0	0.0
	2028 CCCT (661 MW "F" 2x1)	661.0	562.2	98.8

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.