

Appendix A

PacifiCorp Avoided Cost (GRID and Differential Revenue Requirement) Model Updates through May 2013 Case No. 03-035-14

GRID Scenario Study Period

January 1, 2014 through December 31, 2033 (20-year study)
Avoided Cost prices starting in January 2014

Official Forward Price Curve (Gas and Market Prices)

Updated to PacifiCorp's March 2013 Official Forward Price Curve (1303 OFPC)

Fuel Prices (Coal)

Average and incremental coal costs based on forecast dated January 2013

Integrated Resource Plan (IRP) Resources

2013 IRP filed with Commission on April 30, 2013
Resource additions, including generating resources, DSM, and front office transactions (FOT), consistent with 2013 IRP
Transmission additions updated consistent with the 2013 IRP

Hydro Resources

2013 hydro forecast prepared April 2013
2013 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

Updated to the Company's most recent inflation rate study dated March 2013

Load Forecast (Retail)

20-Year load forecast dated June 2013

Long-Term Contracts

Long-term contracts which have prices that are indexed to market were updated to be consistent with the 1303 OFPC

Contracts are modeled based on 48 months ended December 2013

Eight Utah Schedule 37 solar projects added as “UT Sch 37 Solar” (22.29 MW nameplate)

Market Capacity

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

Additional heavy load hour (HLH) and light load hour (LLH) sales limited to historical 48 month average less monthly executed STF contracts as of April 2013

Potential Environmental Costs

Updated costs to be consistent with the 1303 OFPC

Costs are excluded from fuel costing and are excluded from avoided costs

Costs included in incremental fuel costs for plant commitment and dispatch decisions starting in 2022

Regulating Margin

Study 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

Short-Term Firm (STF) Transactions

Updated to include executed STF contracts as of April 2013

Size of the Avoided Cost Resource

The size of the avoided cost resource has not been changed

The avoided cost thermal resource is a 100 MW and 85% capacity factor thermal resource.

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 2012

Topology

There were no changes to the GRID model topology

Transmission

Short term transmission modeled based on 48 months ended December 2012

Updated Energy Gateway as discussed in 2013 IRP Chapter 4

IRP Partial Displacements (this filing)

Base Case - Thermal partial displacement is 245.0 MW. Listed below are the QFs that have executed a power purchase agreement or are actively negotiating for new power purchase agreement.

Queue	Partial Displacement Resources	Partial Displacement Capacity MW	Energy – Capacity Factor	Start Date
1	AG Hydro (Signed)	10.0	29.7%	2012
2	Dorena Hydro (Signed)	6.1	28.2%	2013
3	TMF Biofuels (Signed)	4.8	88.5%	2013
4	Columbia Biogas (Signed)	3.0	45.7%	2014
5	OM Power I (Signed)	10.0	64.5%	2013
6	EBD Hydro (Signed)	3.0	39.1%	2012
7	UT Sch 37 Solar (Signed) **	5.8	31.2%	2014
8	QF - 69 - WY - Wind *	34.0	42.4%	2014
9	QF - 70 - UT - Wind *	26.1	33.9%	2015
10	QF - 72 - UT - Solar **	10.4	29.8%	2017
11	QF - 73 - UT - Wind *	32.8	35.0%	2016
12	QF - 74 - UT - Wind *	32.8	35.0%	2016
13	QF - 76 - UT - Wind *	25.3	34.0%	2015
14	QF - 77 - UT - Wind *	14.9	32.3%	2015
15	QF - 82 - UT - Wind *	26.0	33.8%	2015
Displacement in Base Case MW		245.0 MW		

* Wind resources partially displace the proxy resource based upon the on-peak capacity factor as ordered in Docket No. 03-035-14 dated October 31, 2005.

** Solar resources partially displace the proxy resource based on an 11.5% capacity contribution for fixed solar arrays, and 25.9% for tracking arrays per the Company's capacity contribution study dated January 2012.

Market FOTs are displaced based upon the year the FOT is available and from highest to lowest price. FOTs available in order of highest to lowest price are Mona, Nevada Oregon Border (NOB), California Oregon Border (COB), and Mid-Columbia.

QFs partially displace FOT based upon the year and quarter that the QF goes online.

The partial displacement is shown below.

Displacement in Base Case				
Year	Displaced Resource	2013 IRP MW	Displacement MW	Remaining MW
2014	FOT - Mona	0.0	0.0	0.0
	FOT - NOB	100.0	67.9	32.1
	FOT - COB	130.0	0.0	130.0
	FOT - Mid-C	479.0	0.0	479.0
2015	FOT - Mona	0.0	0.0	0.0
	FOT - NOB	100.0	100.0	0.0
	FOT - COB	247.0	16.9	230.1
	FOT - Mid-C	498.0	0.0	498.0
2016	FOT - Mona	0.0	0.0	0.0
	FOT - NOB	100.0	100.0	0.0
	FOT - COB	262.0	134.6	127.4
	FOT - Mid-C	621.0	0.0	621.0
2017	FOT - Mona	0.0	0.0	0.0
	FOT - NOB	100.0	100.0	0.0
	FOT - COB	297.0	145.0	152.0
	FOT - Mid-C	705.0	0.0	705.0
2018	FOT - Mona	37.0	37.0	0.0
	FOT - NOB	100.0	100.0	0.0
	FOT - COB	297.0	108.0	189.0
	FOT - Mid-C	775.0	0.0	775.0
2019	FOT - Mona	151.0	151.0	0.0
	FOT - NOB	100.0	94.0	6.0
	FOT - COB	297.0	0.0	297.0
	FOT - Mid-C	775.0	0.0	775.0
2020	FOT - Mona	248.0	245.0	3.0
	FOT - NOB	100.0	0.0	100.0
	FOT - COB	297.0	0.0	297.0
	FOT - Mid-C	775.0	0.0	775.0
2021	FOT - Mona	19.0	19.0	0.0
	FOT - NOB	100.0	100.0	0.0
	FOT - COB	297.0	126.0	171.0
	FOT - Mid-C	775.0	0.0	775.0
2022	FOT - Mona	161.0	161.0	0.0
	FOT - NOB	100.0	84.0	16.0
	FOT - COB	297.0	0.0	297.0
	FOT - Mid-C	775.0	0.0	775.0
2023	FOT - Mona	255.0	245.0	10.0
	FOT - NOB	100.0	0.0	100.0
	FOT - COB	297.0	0.0	297.0
	FOT - Mid-C	775.0	0.0	775.0
2024	2025 CCCT (423 MW "J" 1x1)	423.0	245.0	178.0

FOT displacement in early years reflects the start date timing of when signed and potential resources are available.

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

Queue	Partial Displacement Resources	Partial Displacement Capacity MW	Energy – Capacity Factor	Start Date
1	AG Hydro (Signed)	10.0	29.7%	2012
2	Dorena Hydro (Signed)	6.1	28.2%	2013
3	TMF Biofuels (Signed)	4.8	88.5%	2013
4	Columbia Biogas (Signed)	3.0	45.7%	2014
5	OM Power I (Signed)	10.0	64.5%	2013
6	EBD Hydro (Signed)	3.0	39.1%	2012
7	UT Sch 37 Solar (Signed) **	5.8	31.2%	2014
8	QF - 69 - WY - Wind *	34.0	42.4%	2014
9	QF - 70 - UT - Wind *	26.1	33.9%	2015
10	QF - 72 - UT - Solar **	10.4	29.8%	2017
11	QF - 73 - UT - Wind *	32.8	35.0%	2016
12	QF - 74 - UT - Wind *	32.8	35.0%	2016
13	QF - 76 - UT - Wind *	25.3	34.0%	2015
14	QF - 77 - UT - Wind *	14.9	32.3%	2015
15	QF - 82 - UT - Wind *	26.0	33.8%	2015
16	Avoided Cost Resource	100.0	85.0%	2014
Displacement in Base Case MW		345.0 MW		

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 MW	Displacement MW	Remaining MW
2014	FOT - Mona	0.0	0.0	0.0
	FOT - NOB	100.0	100.0	0.0
	FOT - COB	130.0	67.9	62.1
	FOT - Mid-C	479.0	0.0	479.0
2015	FOT - Mona	0.0	0.0	0.0
	FOT - NOB	100.0	100.0	0.0
	FOT - COB	247.0	116.9	130.1
	FOT - Mid-C	498.0	0.0	498.0
2016	FOT - Mona	0.0	0.0	0.0
	FOT - NOB	100.0	100.0	0.0
	FOT - COB	262.0	234.6	27.4
	FOT - Mid-C	621.0	0.0	621.0
2017	FOT - Mona	0.0	0.0	0.0
	FOT - NOB	100.0	100.0	0.0
	FOT - COB	297.0	245.0	52.0
	FOT - Mid-C	705.0	0.0	705.0
2018	FOT - Mona	37.0	37.0	0.0
	FOT - NOB	100.0	100.0	0.0
	FOT - COB	297.0	208.0	89.0
	FOT - Mid-C	775.0	0.0	775.0
2019	FOT - Mona	151.0	151.0	0.0
	FOT - NOB	100.0	100.0	0.0
	FOT - COB	297.0	94.0	203.0
	FOT - Mid-C	775.0	0.0	775.0
2020	FOT - Mona	248.0	248.0	0.0
	FOT - NOB	100.0	97.0	3.0
	FOT - COB	297.0	0.0	297.0
	FOT - Mid-C	775.0	0.0	775.0
2021	FOT - Mona	19.0	19.0	0.0
	FOT - NOB	100.0	100.0	0.0
	FOT - COB	297.0	226.0	71.0
	FOT - Mid-C	775.0	0.0	775.0
2022	FOT - Mona	161.0	161.0	0.0
	FOT - NOB	100.0	100.0	0.0
	FOT - COB	297.0	84.0	213.0
	FOT - Mid-C	775.0	0.0	775.0
2023	FOT - Mona	255.0	255.0	0.0
	FOT - NOB	100.0	90.0	10.0
	FOT - COB	297.0	0.0	297.0
	FOT - Mid-C	775.0	0.0	775.0
2024	2025 CCCT (423 MW "J" 1x1)	423.0	345.0	78.0

IRP Partial Displacements (last filing)

Base Case - Thermal partial displacement was 436.2 MW. Below are QFs that have executed a power purchase agreement or are actively negotiating for new power purchase agreement.

Queue	Partial Displacement Resources	Partial Displacement Capacity MW	Energy – Capacity Factor
1	AG Hydro (Signed)	10.0	29.7%
2	Dorena Hydro (Signed)	6.1	28.2%
3	TMF Biofuels (Signed)	4.8	88.5%
4	Columbia Biogas (Signed)	3.0	45.7%
5	OM Power I (Signed)	10.0	64.5%
6	EBD Hydro (Signed)	3.0	39.1%
7	QF - 28 - UT - Wind *	26.1	33.9%
8	QF - 29 - UT - Wind *	25.6	36.0%
9	QF - 33 - UT - Wind *	18.7	31.8%
10	QF - 42 - UT - Wind *	32.8	35.0%
11	QF - 43 - UT - Wind *	32.8	35.0%
12	QF - 57 - WY - Wind *	24.1	41.7%
13	QF - 58 - WY - Wind *	19.1	33.2%
14	QF - 59 - UT - Wind *	3.9	32.5%
15	QF - 61 - UT - Biomass	30.0	90.4%
16	QF - 62 - UT - Solar **	13.0	28.7%
17	QF - 63 - WY - Wind *	34.6	40.5%
18	QF - 64 - WY - Wind *	34.9	45.1%
19	QF - 65 - UT - Wind *	24.6	29.8%
20	QF - 66 - OR - Solar **	20.7	27.2%
21	QF - 67 - OR - Solar **	6.2	27.2%
22	QF - 68 - UT - CHP	18.2	85.0%
23	QF - 69 - WY - Wind *	34.0	42.4%
Displacement in Base Case MW		436.2 MW	

* Wind resources partially displace the proxy resource based upon the on-peak capacity factor as ordered in Docket 03-035-14 dated October 31, 2005.

** Solar resources partially displace the proxy resource based on an 11.5% capacity contribution for fixed solar arrays, and 25.9% for tracking arrays per the Company's capacity contribution study dated January 2012.

Market FOTs are displaced based upon the year the FOT is available and from highest to lowest price. FOTs available in order of highest to lowest price are Mona, Mead, Nevada Oregon Border (NOB), California Oregon Border (COB), and Mid-Columbia. The partial displacement is shown below.

Displacement in Base Case				
Year	Displaced Resource	Available Resources	Displacement MW	Remaining MW
2014	FOT - Mona	0.0	0.0	0.0
	FOT - Mead	84.0	84.0	0.0
	FOT - NOB	100.0	100.0	0.0
	FOT - COB	0.0	0.0	0.0
	FOT - Mid-C	770.0	252.2	517.8
2015	FOT - Mona	0.0	0.0	0.0
	FOT - Mead	88.0	88.0	0.0
	FOT - NOB	100.0	100.0	0.0
	FOT - COB	118.0	118.0	0.0
	FOT - Mid-C	775.0	130.2	644.8
2016	FOT - Mona	0.0	0.0	0.0
	FOT - Mead	88.0	88.0	0.0
	FOT - NOB	100.0	100.0	0.0
	FOT - COB	259.0	248.2	10.8
	FOT - Mid-C	775.0	0.0	775.0
2017	FOT - Mona	124.0	124.0	0.0
	FOT - Mead	0.0	0.0	0.0
	FOT - NOB	100.0	100.0	0.0
	FOT - COB	342.0	212.2	129.8
	FOT - Mid-C	775.0	0.0	775.0
2018	FOT - Mona	193.0	193.0	0.0
	FOT - Mead	0.0	0.0	0.0
	FOT - NOB	100.0	100.0	0.0
	FOT - COB	342.0	143.2	198.8
	FOT - Mid-C	775.0	0.0	775.0
2019	FOT - Mona	300.0	300.0	0.0
	FOT - Mead	0.0	0.0	0.0
	FOT - NOB	100.0	100.0	0.0
	FOT - COB	342.0	36.2	305.8
	FOT - Mid-C	775.0	0.0	775.0
2020	FOT - Mona	300.0	300.0	0.0
	FOT - Mead	0.0	0.0	0.0
	FOT - NOB	100.0	100.0	0.0
	FOT - COB	342.0	36.2	305.8
	FOT - Mid-C	775.0	0.0	775.0

Displacement in Base Case				
Year	Displaced Resource	Available Resources	Displacement MW	Remaining MW
2021	FOT - Mona	38.0	38.0	0.0
	FOT - Mead	0.0	0.0	0.0
	FOT - NOB	100.0	100.0	0.0
	FOT - COB	342.0	298.2	43.8
	FOT - Mid-C	757.0	0.0	757.0
2022	FOT - Mona	113.0	113.0	0.0
	FOT - Mead	0.0	0.0	0.0
	FOT - NOB	100.0	100.0	0.0
	FOT - COB	342.0	223.2	118.8
	FOT - Mid-C	775.0	0.0	775.0
2023	FOT - Mona	209.0	209.0	0.0
	FOT - Mead	0.0	0.0	0.0
	FOT - NOB	100.0	100.0	0.0
	FOT - COB	342.0	127.2	214.8
	FOT - Mid-C	775.0	0.0	775.0
2024	FOT - Mona	255.0	255.0	0.0
	FOT - Mead	0.0	0.0	0.0
	FOT - NOB	100.0	100.0	0.0
	FOT - COB	342.0	81.2	260.8
	FOT - Mid-C	775.0	0.0	775.0
2025	2025 CCCT (423 MW "J" 1x1)	423.0	423.0	0.0
	FOT - Mona	118.0	13.2	104.8
2026	2025 CCCT (423 MW "J" 1x1)	423.0	423.0	0.0
	FOT - Mona	195.0	13.2	181.8
2027	2025 CCCT (423 MW "J" 1x1)	423.0	423.0	0.0
	FOT - Mona	294.0	13.2	280.8
2028	2025 CCCT (423 MW "J" 1x1)	423.0	423.0	0.0
	2028 CCCT (400 MW "J" 1x1)	400.0	13.2	286.8

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

Queue	Partial Displacement Resources	Partial Displacement Capacity MW	Energy – Capacity Factor
1	AG Hydro (Signed)	10.0	29.7%
2	Dorena Hydro (Signed)	6.1	28.2%
3	TMF Biofuels (Signed)	4.8	88.5%
4	Columbia Biogas (Signed)	3.0	45.7%
5	OM Power I (Signed)	10.0	64.5%
6	EBD Hydro (Signed)	3.0	39.1%
7	QF - 28 - UT - Wind *	26.1	33.9%

Queue	Partial Displacement Resources	Partial Displacement Capacity MW	Energy – Capacity Factor
8	QF - 29 - UT - Wind *	25.6	36.0%
9	QF - 33 - UT - Wind *	18.7	31.8%
10	QF - 42 - UT - Wind *	32.8	35.0%
11	QF - 43 - UT - Wind *	32.8	35.0%
12	QF - 57 - WY - Wind *	24.1	41.7%
13	QF - 58 - WY - Wind *	19.1	33.2%
14	QF - 59 - UT - Wind *	3.9	32.5%
15	QF - 61 - UT - Biomass	30.0	90.4%
16	QF - 62 - UT - Solar **	13.0	28.7%
17	QF - 63 - WY - Wind *	34.6	40.5%
18	QF - 64 - WY - Wind *	34.9	45.1%
19	QF - 65 - UT - Wind *	24.6	29.8%
20	QF - 66 - OR - Solar **	20.7	27.2%
21	QF - 67 - OR - Solar **	6.2	27.2%
22	QF - 68 - UT - CHP	18.2	85.0%
23	QF - 69 - WY - Wind *	34.0	42.4%
24	Avoided Cost Resource	100.0	85.0%
Displacement in Base Case MW		536.2	

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	Available Resources	Displacement MW	Remaining MW
2014	FOT - Mona	0.0	0.0	0.0
	FOT - Mead	84.0	84.0	0.0
	FOT - NOB	100.0	100.0	0.0
	FOT - COB	0.0	0.0	0.0
	FOT - Mid-C	770.0	352.2	417.8
2015	FOT - Mona	0.0	0.0	0.0
	FOT - Mead	88.0	88.0	0.0
	FOT - NOB	100.0	100.0	0.0
	FOT - COB	118.0	118.0	0.0
	FOT - Mid-C	775.0	230.2	544.8
2016	FOT - Mona	0.0	0.0	0.0
	FOT - Mead	88.0	88.0	0.0
	FOT - NOB	100.0	100.0	0.0
	FOT - COB	259.0	259.0	0.0
	FOT - Mid-C	775.0	89.2	685.8

Displacement in Avoided Cost Case				
Year	Displaced Resource	Available Resources	Displacement MW	Remaining MW
2017	FOT - Mona	124.0	124.0	0.0
	FOT - Mead	0.0	0.0	0.0
	FOT - NOB	100.0	100.0	0.0
	FOT - COB	342.0	312.2	29.8
	FOT - Mid-C	775.0	0.0	775.0
2018	FOT - Mona	193.0	193.0	0.0
	FOT - Mead	0.0	0.0	0.0
	FOT - NOB	100.0	100.0	0.0
	FOT - COB	342.0	243.2	98.8
	FOT - Mid-C	775.0	0.0	775.0
2019	FOT - Mona	300.0	300.0	0.0
	FOT - Mead	0.0	0.0	0.0
	FOT - NOB	100.0	100.0	0.0
	FOT - COB	342.0	136.2	205.8
	FOT - Mid-C	775.0	0.0	775.0
2020	FOT - Mona	300.0	300.0	0.0
	FOT - Mead	0.0	0.0	0.0
	FOT - NOB	100.0	100.0	0.0
	FOT - COB	342.0	136.2	205.8
	FOT - Mid-C	775.0	0.0	775.0
2021	FOT - Mona	38.0	38.0	0.0
	FOT - Mead	0.0	0.0	0.0
	FOT - NOB	100.0	100.0	0.0
	FOT - COB	342.0	342.0	0.0
	FOT - Mid-C	757.0	56.2	700.8
2022	FOT - Mona	113.0	113.0	0.0
	FOT - Mead	0.0	0.0	0.0
	FOT - NOB	100.0	100.0	0.0
	FOT - COB	342.0	323.2	18.8
	FOT - Mid-C	775.0	0.0	775.0
2023	FOT - Mona	209.0	209.0	0.0
	FOT - Mead	0.0	0.0	0.0
	FOT - NOB	100.0	100.0	0.0
	FOT - COB	342.0	227.2	114.8
	FOT - Mid-C	775.0	0.0	775.0
2024	FOT - Mona	255.0	255.0	0.0
	FOT - Mead	0.0	0.0	0.0
	FOT - NOB	100.0	100.0	0.0
	FOT - COB	342.0	181.2	160.8

Displacement in Avoided Cost Case				
Year	Displaced Resource	Available Resources	Displacement MW	Remaining MW
	FOT - Mid-C	775.0	0.0	775.0
2025	2025 CCCT (423 MW "J" 1x1)	423.0	423.0	0.0
	FOT - Mona	118.0	113.2	4.8
2026	2025 CCCT (423 MW "J" 1x1)	423.0	423.0	0.0
	FOT - Mona	195.0	113.2	81.8
2027	2025 CCCT (423 MW "J" 1x1)	423.0	423.0	0.0
	FOT - Mona	294.0	113.2	180.8
2028	2025 CCCT (423 MW "J" 1x1)	423.0	423.0	0.0
	2028 CCCT (400 MW "J" 1x1)	400.0	113.2	186.8