Appendix A

PacifiCorp
Avoided Cost (GRID and Differential Revenue Requirement)
Model Updates through March 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 December 2012 Official Forward Price Curve (1212 OFPC)

Fuel Prices (Coal)

Average and incremental coal costs based on forecast dated January 2013

IRP Resources

Resource additions, including generating resources, DSM, and front office transactions (FOT), are based on the Resource Needs Assessment Update ("Needs Assessment") filed on September 28, 2012, in Docket No. 11-035-73.
Transmission additions have not changed from the 2011 IRP Update

Hydro Resources

10-year Business Plan forecast dated June 29, 2012
Hydro forecast extended past 2020 at 2020 hydro level

Discount Rate

7.154% discount rate as used in the Needs Assessment
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 December 2012

Load Forecast (Retail)

20-Year load forecast dated July 2012

Long-Term Contracts

Long-term contracts which have prices that are indexed to market were updated to be consistent with the 1212 OFPC
Contracts are modeled based on 48 months ended June 2012
High Plateau, Lower Ridge, Mule Hollow and Pine City Wind QFs were removed

Market Capacity

Capacity set at 48 month average of all STF sales ended June 2012
Additional Heavy Load Hour (HLH) and Light Load Hour (LLH) sales limited to historical 48 month average less monthly executed STF contracts as of January 2013

Potential Environmental Costs

Updated costs to be consistent with the 1212 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 January 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 resources operating characteristics were based on the Needs Assessment
Forced outage, planned outage and heat rate levels based on 48 months ended June 2012

Topology

There were no changes to the GRID model topology

Transmission

Short term transmission modeled based on 48 months ended June 2012

IRP Partial Displacements (this 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

IRP Partial Displacements (last filing)

Base Case - Thermal partial displacement was 226.2 MW. Below are QFs that are actively negotiating for new power purchase agreements.

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	High Plateau Wind QF (Signed)*	2.7	28.5%
8	Lower Ridge Wind QF (Signed)*	2.9	30.8%
9	Mule Hollow Wind QF (Signed)*	2.8	29.4%
10	Pine City Wind QF (Signed)*	2.8	29.4%
11	QF - 28 - UT – Wind*	26.1	33.9%
12	QF - 29 - UT – Wind*	25.6	36.0%
13	QF - 33 - UT – Wind*	18.7	31.8%
14	QF - 40 - UT – Solar**	10.7	23.0%
15	QF - 42 - UT – Wind*	32.8	35.0%
16	QF - 43 - UT – Wind*	32.8	35.0%
17	QF - 54 - WY – Wind*	31.4	37.0%
Displacement in Base Case MW		**226.2 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 a 13.6% capacity contribution for fixed solar arrays, and 26.8% 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**	**Needs Assessment**	**Displacement MW**	**Remaining MW**
2013	FOT – Mona	0.0	0.0	0.0
	– Mead	33.0	33.0	0.0
	– NOB	100.0	100.0	0.0
	– COB	0.0	0.0	0.0
	– Mid Columbia	775.0	93.2	681.8
2014	FOT – Mona	0.0	0.0	0.0
	– Mead	84.0	84.0	0.0
	– NOB	100.0	100.0	0.0
	– COB	0.0	0.0	0.0
	– Mid Columbia	770.0	42.2	727.8
2015	FOT – Mona	0.0	0.0	0.0
	– Mead	88.0	88.0	0.0
	– NOB	100.0	100.0	0.0
	– COB	118.0	38.2	79.8
	– Mid Columbia	775.0	0.0	755.0
2016	FOT – Mona	0.0	0.0	0.0
	– Mead	88.0	88.0	0.0
	– NOB	100.0	100.0	0.0
	– COB	259.0	38.2	220.8
	– Mid Columbia	775.0	0.0	775.0
2017	FOT – Mona	124.0	124.0	0.0
	– Mead	0.0	0.0	0.0
	– NOB	100.0	100.0	0.0
	– COB	342.0	2.2	339.8
	– Mid Columbia	775.0	0.0	775.0
2018	FOT – Mona	193.0	0.0	0.0
	– Mead	0.0	193.0	0.0
	– NOB	100.0	33.2	66.8
	– COB	342.0	0.0	342.0
	– Mid Columbia	775.0	0.0	775.0
2019	FOT – Mona	300.0	226.2	73.8
	– Mead	0.0	0.0	0.0
	– NOB	100.0	0.0	100.0
	– COB	342.0	0.0	342.0
	– Mid Columbia	775.0	0.0	775.0
2020	FOT – Mona	300.0	226.2	73.8
	– Mead	0.0	0.0	0.0
	– NOB	100.0	0.0	100.0
	– COB	342.0	0.0	342.0
	– Mid Columbia	775.0	0.0	775.0
2021	FOT – Mona	38.0	38.0	0.0
	– Mead	0.0	0.0	0.0
	– NOB	100.0	100.0	0.0
	– COB	342.0	88.2	253.8
	– Mid Columbia	757.0	0.0	757.0
2022	FOT – Mona	113.0	113.0	0.0
	– Mead	0.0	0.0	0.0
	– NOB	100.0	100.0	0.0
	– COB	342.0	13.2	328.8

Displacement in Base Case				
Year	**Displaced Resource**	**Needs Assessment**	**Displacement MW**	**Remaining MW**
	– Mid Columbia	775.0	0.0	775.0
2023	FOT – Mona	209.0	209.0	0.0
	– Mead	0.0	0.0	0.0
	– NOB	100.0	17.2	82.8
	– COB	342.0	0.0	342.0
	– Mid Columbia	775.0	0.0	775.0
2024	FOT – Mona	255.0	226.2	28.8
	– Mead	0.0	0.0	0.0
	– NOB	100.0	0.0	100.0
	– COB	342.0	0.0	342.0
	– Mid Columbia	775.0	0.0	775.0
2025 & Thereafter	2025 CCCT (423 MW "J" 1x1)	423.0	226.2	196.8

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	High Plateau Wind QF (Signed)	2.7	28.5%
8	Lower Ridge Wind QF (Signed)	2.9	30.8%
9	Mule Hollow Wind QF (Signed)	2.8	29.4%
10	Pine City Wind QF (Signed)	2.8	29.4%
11	QF - 28 - UT - Wind	26.1	33.9%
12	QF - 29 - UT - Wind	25.6	36.0%
13	QF - 33 - UT - Wind	18.7	31.8%
14	QF - 40 - UT - Solar	10.7	23.0%
15	QF - 42 - UT - Wind	32.8	35.0%
16	QF - 43 - UT - Wind	32.8	35.0%
17	QF - 54 - WY - Wind	31.4	37.0%
18	Avoided Cost Resource	100.0	85.0%
Displacement in Base Case MW		**326.2 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**	**Needs Assessment**	**Displacement MW**	**Remaining MW**
2013	FOT – Mona	0.0	0.0	0.0
	– Mead	33.0	33.0	0.0

Displacement in Avoided Cost Case				
Year	**Displaced Resource**	**Needs Assessment**	**Displacement MW**	**Remaining MW**
	– NOB	100.0	100.0	0.0
	– COB	0.0	0.0	0.0
	– Mid Columbia	775.0	193.2	581.8
2014	FOT – Mona	0.0	0.0	0.0
	– Mead	84.0	84.0	0.0
	– NOB	100.0	100.0	0.0
	– COB	0.0	0.0	0.0
	– Mid Columbia	770.0	142.2	627.8
2015	FOT – Mona	0.0	0.0	0.0
	– Mead	88.0	88.0	0.0
	– NOB	100.0	100.0	0.0
	– COB	118.0	118.0	0.0
	– Mid Columbia	775.0	20.2	754.8
2016	FOT – Mona	0.0	0.0	0.0
	– Mead	88.0	88.0	0.0
	– NOB	100.0	100.0	0.0
	– COB	259.0	138.2	120.8
	– Mid Columbia	775.0	0.0	775.0
2017	FOT – Mona	124.0	124.0	0.0
	– Mead	0.0	0.0	0.0
	– NOB	100.0	100.0	0.0
	– COB	342.0	102.2	239.8
	– Mid Columbia	775.0	0.0	775.0
2018	FOT – Mona	193.0	0.0	0.0
	– Mead	0.0	193.0	0.0
	– NOB	100.0	100.0	0.0
	– COB	342.0	33.2	308.8
	– Mid Columbia	775.0	0.0	775.0
2019	FOT – Mona	300.0	300.0	0.0
	– Mead	0.0	0.0	0.0
	– NOB	100.0	26.2	73.8
	– COB	342.0	0.0	342.0
	– Mid Columbia	775.0	0.0	775.0
2020	FOT – Mona	300.0	300.0	0.0
	– Mead	0.0	0.0	0.0
	– NOB	100.0	26.2	73.8
	– COB	342.0	0.0	342.0
	– Mid Columbia	775.0	0.0	775.0
2021	FOT – Mona	38.0	38.0	0.0
	– Mead	0.0	0.0	0.0
	– NOB	100.0	100.0	0.0
	– COB	342.0	188.2	153.8
	– Mid Columbia	757.0	0.0	757.0
2022	FOT – Mona	113.0	113.0	0.0
	– Mead	0.0	0.0	0.0
	– NOB	100.0	100.0	0.0
	– COB	342.0	113.2	228.8
	– Mid Columbia	775.0	0.0	775.0
2023	FOT – Mona	209.0	209.0	0.0
	– Mead	0.0	0.0	0.0
	– NOB	100.0	100.0	0.0
	– COB	342.0	17.2	324.8

Displacement in Avoided Cost Case				
Year	**Displaced Resource**	**Needs Assessment**	**Displacement MW**	**Remaining MW**
	– Mid Columbia	775.0	0.0	775.0
2024	FOT – Mona	255.0	255.0	0.0
	– Mead	0.0	0.0	0.0
	– NOB	100.0	71.2	28.8
	– COB	342.0	0.0	342.0
	– Mid Columbia	775.0	0.0	775.0
2025 & Thereafter	2025 CCCT (423 MW "J" 1x1)	423.0	326.2	96.8