

## **Appendix A**

### **PacifiCorp Avoided Cost (GRID and Differential Revenue Requirement) Model Updates through January 2011 Case No. 03-035-14**

#### **GRID Scenario Study Period**

January 1, 2011 through December 31, 2030 (20-year study)  
Avoided Cost prices starting in January 2011

#### **Official Forward Price Curve (Gas and Market Prices)**

Updated to PacifiCorp's December 2010 official forward price curve (1210 OFPC)

#### **Short-Term Firm (STF) Transactions**

STF transactions have been updated to include executed STF contracts as of January 2011; Extract 590

#### **Market Capacity**

48 Months ended June 2010  
Market cap HLH-LLH sales limited to 48 month average of all STF sales, less monthly STF from Extract 590

#### **Inflation Rates**

The Company updated inflation rates consistent with the Company's most recent inflation rate study dated December 2010

#### **Load Forecast (Retail)**

20-year load forecast dated November 2010

#### **Fuel Prices (Coal)**

Average and incremental coal cost study  
2011 through 2020 – 10 Year forecast dated October 2010  
Thereafter escalated at 2.5%

#### **Potential Environmental Costs**

Costs included in incremental fuel costs for plant commitment and dispatch decisions starting in 2013  
Environmental costs starting in 2013 for sulfur dioxide and 2015 for carbon dioxide  
Costs are consistent with the company's forecast dated December 2010  
Costs are excluded from fuel costing and are excluded from avoided costs

**Proxy Resource (Next Deferrable Resource)**

2011 No deferrable resources are available

2012 through 2017 - Mona, West Main and COB Third Quarter (Q3) High Load Hour (HLH) Front Office Trade (FOT) - 2008 IRP Update Table ES.1

2018 and thereafter – 536 MW Combined Cycle Combustion Turbine (CCCT)

Dry "F" 2x1 - East Side Resource (4500') - 2008 IRP Update Table ES.1

**IRP Resources**

IRP Resources transmission, thermal, DSM, front office trades and wind resources - 2008 IRP Update Dated March 31, 2010

**IRP Partial Displacements (this filing)**Thermal and Market Purchase Resources

Base Case - thermal partial displacement was 191.5 MW. Included are QFs that are actively negotiating for new power purchase agreements as shown below. Four QFs, Kennecott Smelter, Kennecott Refinery, Tesoro and US Magnesium have signed one year contracts and were removed from the queue. These QFs were considered existing resources when making the decision to build the Lake Side II CCCT.

Queue	Thermal Resource	Capacity MW	Energy – Capacity Factor
1	Klamath Falls Biomass	38.5	85.0%
2	Eastern Idaho Waste Disposal	15.0	89.5
3	ExxonMobil	98.0	75.0
4	Timber Canyon	<u>40.0</u>	85.0
<b>Displacement in Base Case MW</b>		<b>191.5 MW</b>	

In the base case, 2012 through 2017 front office trades are displaced in the Mona bubble.

<b>Displacement in Base Case - 191.5 MW</b>				
Year	Displaced Resource	IRP Update	Displacement	Remaining MW
2012	Market FOT – Mona 3Q	200	191.5	8.5
2013	Market FOT – Mona 3Q	300	191.5	108.5
2014	Market FOT – Mona 3Q	300	191.5	108.5
2015	Market FOT – Mona 3Q	300	191.5	108.5
2016	Market FOT – Mona 3Q	300	191.5	108.5
2017	Market FOT – Mona 3Q	300	191.5	108.5
2018	Proxy Resource (see above)	536	191.5	344.5

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

Queue	Thermal Resource	Capacity MW	Energy – Capacity Factor
1	Klamath Falls Biomass	38.5	85.0%
2	Eastern Idaho Waste Disposal	15.0	89.5
3	ExxonMobil	98.0	75.0
4	Timber Canyon	40.0	85.0
5	Avoided Cost Resource	<u>100.0</u>	85.0
<b>Displacement in Base Case MW</b>		<b>291.5 MW</b>	

In the avoided cost case, 2012 front office trades in the Mona bubble are fully displaced and additional displacements are made in the West Main and California Oregon Border (COB) bubbles. In 2013 through 2017 front office trades are displaced in the Mona bubble.

Displacement in Base Case - 291.5 MW				
Year	Displaced Resource	IRP Update	Displacement	Remaining MW
2012	Market FOT – Mona 3Q	200	200.0	0.0
	Market FOT – West Main 3Q	15	15.0	0.0
	Market FOT – COB 3Q	389	76.5	312.5
2013	Market FOT – Mona 3Q	300	291.5	8.5
2014	Market FOT – Mona 3Q	300	291.5	8.5
2015	Market FOT – Mona 3Q	300	291.5	8.5
2016	Market FOT – Mona 3Q	300	291.5	8.5
2017	Market FOT – Mona 3Q	300	291.5	8.5
2018	Proxy Resource (see above)	536	291.5	244.5

### Wind Resources

A total of 887 MW of wind is included in the 2008 IRP Update by 2019 of which 427 MW was under construction or contract at the time of the IRP study. The remaining 460 MW of planned wind resources is scheduled to be available starting in 2017 (Table ES.1). The Company has added potential wind QF resources which partially displace 353.6 MW of the 460 MW remaining total.

Potential QF Wind Resource		
Year	Displaced Resource	MW
2011	Power County Wind – North and South	43.6
2012	QF - Cedar Creek Wind I through V	133.0
2012	Pioneer Wind Park I QF	49.5
2013	Pioneer Wind Park II QF	49.5
2013	Vivaldi Wind QF	<u>78.0</u>
Wind Resource Partial Displacement of IRP Wind		353.6

## IRP Partial Displacements (last filing)

### Thermal and Market Purchase Resources

Base Case - thermal partial displacement was 251.8 MW. Included are QFs that are actively negotiating for or who have executed new power purchase agreements as shown below.

Queue	Thermal Resource	Capacity MW	Energy – Capacity Factor
1	Klamath Falls Biomass	38.5	85.0%
2	Tesoro	25.0	85.0
3	Kennecott Smelter	31.8	85.0
4	US Magnesium	36.0	85.0
5	Eastern Idaho Waste Disposal	15.0	89.5
6	Kennecott Refinery	7.5	72.0
7	ExxonMobil	98.0	75.0
<b>Displacement in Base Case MW</b>		<b>251.8 MW</b>	

In the base case, 2012 front office trades in the Mona bubble are fully displaced and additional displacements are made in the West Main and California Oregon Border (COB) bubbles. In 2013 and 2014 front office trades are displaced in the Mona bubble.

Displacement in Base Case - 251.8 MW				
Year	Displaced Resource	IRP Update	Displacement	Remaining MW
2012	Market FOT – Mona 3Q	200	200.0	0.0
	Market FOT – West Main 3Q	15	15.0	0.0
	Market FOT – COB 3Q	389	36.8	352.2
2013	Market FOT – Mona 3Q	300	251.8	48.2
2014	Market FOT – Mona 3Q	300	251.8	48.2
2015	Proxy Resource (see above)	607	251.8	355.2

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

Queue	Thermal Resource	Capacity MW	Energy – Capacity Factor
1	Klamath Falls Biomass	38.5	85.0%
2	Tesoro	25.0	85.0
3	Kennecott Smelter	31.8	85.0
4	US Magnesium	36.0	85.0
5	Eastern Idaho Waste Disposal	15.0	89.5
6	Kennecott Refinery	7.5	72.0
7	ExxonMobil	98.0	75.0
8	Avoided Cost Resource	<u>100.0</u>	85.0
<b>Displacement in Avoided Cost Case MW</b>		<b>351.8 MW</b>	

In the avoided cost case, front office trades in the Mona and West Main bubbles are fully displaced and additional displacements are made in the California Oregon Border (COB) bubble.

<b>Displacement in Avoided Cost Case - 351.8 MW</b>				
<b>Year</b>	<b>Displaced Resource</b>	<b>IRP Update</b>	<b>Displacement</b>	<b>Remaining MW</b>
2012	Market FOT – Mona 3Q	200	200.0	0.0
	Market FOT – West Main 3Q	15	15.0	0.0
	Market FOT – COB 3Q	389	136.8	252.2
2013	Market FOT – Mona 3Q	300	300.0	0.0
	Market FOT – West Main 3Q	50	50.0	0.0
	Market FOT – COB 3Q	115	1.8	113.2
2014	Market FOT – Mona 3Q	300	300.0	0.0
	Market FOT – West Main 3Q	50	50.0	0.0
	Market FOT – COB 3Q	265	1.8	263.2
2015	Proxy Resource (see above)	607	351.8	255.2

### Wind Resources

A total of 887 MW of wind is included in the 2008 IRP Update by 2019 of which 427 MW was under construction or contract at the time of the IRP study. The remaining 460 MW of planned wind resources is scheduled to be available starting in 2017 (Table ES.1). The Company has added potential wind QF resources which partially displace 275.2 MW of the 460 MW remaining total.

<b>Potential QF Wind Resource</b>		
<b>Year</b>	<b>Displaced Resource</b>	<b>MW</b>
2011	Windland Power County Wind	43.2
2012	QF - Cedar Creek Wind I through V	133.0
2012	Pioneer Wind Park I QF	49.5
2013	Pioneer Wind Park II QF	49.5
Wind Resource Partial Displacement of IRP Wind		275.2

### **Size of the Avoided Cost Resource**

The avoided cost resource is assumed to be a 100 MW 85% CF thermal resource. The size of the avoided cost resource has not been changed.

### **Transmission (Firm Transmission Rights)**

Transmission updated to reflect current transmission right

### **Transmission (Non-Firm and Short Term Firm)**

Non-firm transmission - 48 months ended June 2010

Short term firm transmission – 48 months ended June 2010

STF and non-firm combined and modeled as a single transmission link

Modeled without incremental wheeling costs

This assumption has not changed from the last filing.

**Thermal Resources**

Thermal resources operating characteristics were updated to reflect expected operations. Forced Outage, Planned Outage and Heat rate levels reflect 48 months ended June 2010. The 2015 IRP 607 MW CCCT was replaced by the Lake Side II 637 MW CCCT which is available in 2014.

**Long-Term Contracts**

Long-term contracts which have prices that are indexed to market were updated to be consistent with the December 2010 Official Forward Price Curve (1210 OFPC).

Modeling updates include Canadian Entitlement, Chehalis Station Service, Clay Basin Gas Storage, Cowlitz Swift, Fort James (CoGen), and Kennecott Incentive. MagCorp and Monsanto Curtailment were revised to reflect buy through contract provisions. The potential QF Windland Power County has signed with the company is now modeled as the existing wind resources Power County Wind.

**Hydro Resources**

10 year forecast dated September 27, 2010  
Hydro forecast extended past 2020 at 2021 hydro level  
This is a change for the prior filing

**Discount Rate**

7.17% which is consistent with the Company's most recent discount rate dated December 2010. This assumption has not changed from the last filing.

**Wind Integration**

Wind integration costs incorporated into GRID Modeling.  
Regulating Margin increased to 260 MW East side and 105 MW West side.  
Currant Creek and Gadsby Combustion Turbine modeled as must run.