

April 13, 2009

***VIA ELECTRONIC FILING  
AND OVERNIGHT DELIVERY***

Oregon Public Utility Commission  
Attention: Filing Center  
550 Capitol Street NE, Suite 215  
Salem, OR 97310-2551

Attn: Filing Center

**Re: UM 1396 – Direct Testimony of Peter G. Warnken of behalf of PacifiCorp**

PacifiCorp (dba Pacific Power) submits for filing an original and five (5) copies of the Testimony of Peter G. Warnken in the above-referenced matter.

PacifiCorp respectfully requests that all data requests regarding this matter be addressed to:

By e-mail (preferred): [datarequest@pacificorp.com](mailto:datarequest@pacificorp.com)

By regular mail: Data Request Response Center  
PacifiCorp  
825 NE Multnomah, Suite 2000  
Portland, OR 97232

Please direct informal correspondence and questions regarding this filing to Joelle Steward, Regulatory Manager, at (503) 813-5542.

Very truly yours,



Andrea L. Kelly  
Vice President, Regulation  
Enclosures

cc: UM 1396 Service List

## CERTIFICATE OF SERVICE

I hereby certify that on this 13<sup>th</sup> day of April, 2009, I caused to be served, via E-Mail and US Mail (to those parties who have not waived paper service), a true and correct copy of the foregoing document on the following named person(s) at his or her last-known address(es) indicated below.

### Service List Docket No. UM-1396

Irion Sanger  
Davison Van Cleve PC  
333 SW Taylor, Suite 400  
Portland, OR 97204  
[ias@dvclaw.com](mailto:ias@dvclaw.com)

Michael T. Weirich (W)  
Department of Justice  
Regulated Utility & Business Section  
1162 Court St NE  
Salem ,OR 97301-4096  
[Michael.weirich@doj.state.or.us](mailto:Michael.weirich@doj.state.or.us)

Janet L. Prewitt (W)  
Department of Justice  
Natural Resources Section  
1162 Court St NE  
Salem ,OR 97301-4096  
[Janet.prewitt@doj.state.or.us](mailto:Janet.prewitt@doj.state.or.us)

Ed Durrenberger  
Oregon Public Utility Commission  
PO Box 2148  
Salem, OR 97308-2148  
[Ed.durrenberger@state.or.us](mailto:Ed.durrenberger@state.or.us)

Randy Allphin (W)  
Idaho Power Company  
PO Box 70  
Boise, ID 83707-0070  
[rallphin@idahopower.com](mailto:rallphin@idahopower.com)

Christa Bearry (W)  
Idaho Power Company  
PO Box 70  
Boise, ID 83707-0070  
[cbearry@idahopower.com](mailto:cbearry@idahopower.com)

Barton Kline (W)  
Idaho Power Company  
PO Box 70  
Boise, ID 83707-0070  
[bkline@idahopower.com](mailto:bkline@idahopower.com)

Michael Youngblood (W)  
Idaho Power Company  
PO Box 70  
Boise, ID 83707-0070  
[myoungblood@idahopower.com](mailto:myoungblood@idahopower.com)

Wendy McIndoo (W)  
McDowell & Rackner PC  
520 SW 6<sup>th</sup> Ave Ste 830  
Portland, OR 97201  
[wendy@mcd-law.com](mailto:wendy@mcd-law.com)

Lisa F. Rackner (W)  
McDowell & Rackner PC  
520 SW 6<sup>th</sup> Ave Ste 830  
Portland, OR 97201  
[lisa@mcd-law.com](mailto:lisa@mcd-law.com)

Vijay A. Satyal (W)  
Oregon Department of Energy  
625 Marion Street, NE  
Salem, OR 97301  
[Vijay.a.satyal@state.or.us](mailto:Vijay.a.satyal@state.or.us)

Randall Dahlgren  
Portland General Electric  
121 SW Salmon St 1WTC0702  
Portland, OR 97204  
[Pge.opuc.filings@pgn.com](mailto:Pge.opuc.filings@pgn.com)

J. Richard George  
Portland General Electric  
121 SW Salmon St 1WTC1301  
Portland, OR 97204  
[Richard.george@pgn.com](mailto:Richard.george@pgn.com)

Randall J. Falkenberg  
RFI Consulting, Inc.  
PMB 362  
8343 Roswell Road  
Sandy Springs, GA 30350  
[consultrfi@aol.com](mailto:consultrfi@aol.com)

Will K. Carey (W)  
Annala, Carey, Baker, et al., PC  
P.O. Box 325  
Hood River, OR 97031  
[wcarey@hoodriverattorneys.com](mailto:wcarey@hoodriverattorneys.com)

G. Catriona McCracken (W)  
Citizens' Utility Board of Oregon  
610 SW Broadway, Suite 308  
Portland, OR 97205  
[catriona@oregoncub.org](mailto:catriona@oregoncub.org)

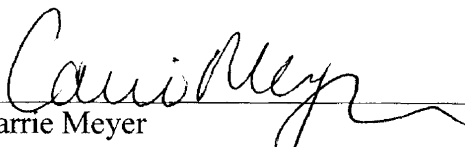
Robert Jenks (W)  
Citizens' Utility Board of Oregon  
610 SW Broadway, Suite 308  
Portland, OR 97205  
[bob@oregoncub.org](mailto:bob@oregoncub.org)

Paul R. Woodin (W)  
Community Renewable Energy Association  
1113 Kelly Ave.  
The Dalles, OR 97058  
[pwoodin@communityrenewables.com](mailto:pwoodin@communityrenewables.com)

Peter J. Richardson (W)  
Richardson & O'Leary PLLC  
P.O. Box 7218  
Boise, ID 83707  
[peter@richardsonandoleary.com](mailto:peter@richardsonandoleary.com)

Oregon Dockets (W)  
PacifiCorp DBA Pacific Power  
825 NE Multnomah Street, Suite 2000  
Portland, OR 97232  
[oregondockets@pacificcorp.com](mailto:oregondockets@pacificcorp.com)

Jordan White (W)  
Pacific Power  
825 NE Multnomah Street, Suite 1800  
Portland, OR 97232  
[Jordan.white@pacificcorp.com](mailto:Jordan.white@pacificcorp.com)

  
Carrie Meyer  
Coordinator, Administrative Services

1 **Q. Please state your name, business address and present position with**  
2 **PacifiCorp (“Company”).**

3 A. My name is Peter G. Warnken. My business address is 825 NE Multnomah,  
4 Portland, OR, 97232. I am currently the Manager of Integrated Resource  
5 Planning for PacifiCorp

6 **Q. Briefly describe your education and business experience.**

7 A. I have a Masters of Public Affairs from the Indiana University School of Public  
8 and Environmental Affairs, and a Bachelor of Arts in Political Science from  
9 Carleton College, Northfield, Minnesota. I have been an employee in the  
10 Integrated Resource Planning department at PacifiCorp since May 2004. Prior to  
11 my employment with PacifiCorp, I worked as a project manager at ICF  
12 Consulting in Fairfax, Virginia, providing consulting and market settlement,  
13 billing, and forecasting software implementation services to electric utilities and  
14 transmission organizations. I have 10 years of energy market modeling,  
15 technology forecasting, and information systems development experience as a  
16 consultant for the U.S. Department of Energy and U.S. Department of Defense. I  
17 also served as a senior financial analyst for the Edison Electric Institute.

18 **Q. Please describe your current duties.**

19 A. I manage the Integrated Resource Planning department. My department prepares  
20 the Company’s biennial Integrated Resource Plan (“IRP”) and the associated  
21 load/resource balance forecasts. The department also supports other resource  
22 planning and acquisition efforts, including system benefit studies for resource  
23 acquisition opportunities and competitive procurements, and other projects

1 requiring the use of production cost modeling.

2 **Q. What is the purpose of your testimony?**

3 A. The purpose of my testimony is to address issues related to setting the resource  
4 sufficiency/deficiency period for the calculation of avoided costs. Specifically,  
5 my testimony addresses the eight issues outlined by Commission Staff and  
6 adopted by Administrative Law Judge Power in a ruling dated March 3, 2009.

7 **Q. Please summarize your testimony?**

8 A. In Docket UM 1129, the Commission decided key issues related to the price paid  
9 to qualifying facilities (“QFs”) for energy and capacity, including the use of  
10 market purchases to set avoided costs during the “sufficiency” period, and use of  
11 a combined cycle combustion turbine (“CCCT”) during the “deficiency” period.  
12 The investigation under Docket UM 1396 is intended to address the sole issue of  
13 *when* a utility should be considered resource deficient or sufficient. My testimony  
14 concludes that in order to provide customer neutrality, and thereby protect  
15 customers from paying prices that exceed avoided costs, the sufficiency period  
16 should be defined as the time period prior to the addition of a CCCT in the  
17 Company’s IRP or update to that plan (“IRP Update”).

18 **ISSUE 1**

19 **Q. How are periods defined?**

20 A. For purposes of establishing avoided costs in Oregon, two periods are defined; the  
21 resource sufficiency period and the resource deficiency period. The deficiency  
22 period is defined as the time at which the Company needs to add a new base load  
23 resource, which in the case of Oregon avoided costs is defined to be a proxy

1 CCCT plant. The sufficiency period spans the time prior to the addition of the  
2 CCCT.

3 **Q. If a resource sufficiency period is established, how often and for what**  
4 **reasons should the sufficiency determination be revisited?**

5 A. Once a sufficiency period is established, the Company believes that the status  
6 should remain unchanged until such time as a new IRP or IRP Update is filed  
7 with the Commission.

8 **ISSUE 2**

9 **Q. What is the definition of resource sufficiency/deficiency for avoided costs**  
10 **purposes?**

11 A. For purposes of determining avoided costs, the Company defines resource  
12 deficiency as the point it becomes necessary to add the next base load resource,  
13 the CCCT proxy plant discussed earlier. This should be consistent with the  
14 Company's IRP or IRP Update.

15 **Q. In what ways does resource sufficiency and deficiency differ from**  
16 **load/resource balance determinations?**

17 A. The objective of the Company's load/resource balance preparation is to determine  
18 the amount and timing of resources needed on an annual basis to ensure  
19 sufficiency capacity is available to meet future system loads. In contrast, resource  
20 sufficiency and deficiency relate to the timing for when the next base load  
21 resource—the CCCT proxy plant—is needed for avoided cost determination. The  
22 load/resource balance serves as the primary driver for IRP development, whereas  
23 sufficiency/deficiency is determined as an outcome of the IRP process. That

1 outcome is the Company's preferred portfolio, judged to be the least-cost resource  
2 plan accounting for risk, uncertainty, regulatory resource requirements, and the  
3 long-run public interest. The preferred portfolio is developed through a  
4 collaborative public process and extensive system modeling that accounts for a  
5 range of input forecasts and various risk factors as required by state IRP standards  
6 and guidelines.

7 **ISSUE 3**

8 **Q. What loads were used to compute the load forecast?**

9 A. PacifiCorp forecasts loads by starting with customer class sales forecasts in each  
10 state and then adds line losses to the customer-class forecasts to determine the  
11 total load required at the generators to meet customer demands. Forecasts are  
12 based on statistical and econometric modeling techniques. These models are  
13 driven by county and state level forecasts of employment and income provided by  
14 public agencies or purchased from commercial econometric forecasting services.  
15 PacifiCorp also generates monthly and seasonal peak load forecasts based on  
16 historical data and a statistical model that relates weather and peak loads. The  
17 monthly customer-class forecasts are combined with the peak load forecasts to  
18 derive hourly peak loads using an hourly load forecast model. For capacity  
19 load/resource balance determination, the Company uses the forecasted load at the  
20 time of the coincident system peak hour.

21 **Q. Are the load forecasts up to date?**

22 A. The forecasts utilized in PacifiCorp's latest avoided cost filing are not current  
23 and do not reflect the decreased load demand resulting from the economic down-

1 turn, but will be updated with the load forecasts used for PacifiCorp's 2008 IRP.  
2 PacifiCorp plans to file its next IRP in May of 2009 ("2008 IRP"). The 2008 IRP  
3 reflects the use of a November 2008 load forecast as well as a February 2009  
4 forecast based on the Company's latest assessment of recessionary impacts to  
5 load growth. Accordingly, PacifiCorp plans to incorporate these same forecasts  
6 in its next scheduled avoided cost filing with one caveat. Under stable economic  
7 conditions, the Company would normally prepare one load forecast per year,  
8 which would then be included in its IRP or IRP Update. However, economic  
9 conditions are currently volatile and unpredictable, requiring the Company to  
10 update its load forecasts frequently to attempt to capture price and usage  
11 changes.

12 **Q. Are the forecasts different than used for the utility's IRP, if so how?**

13 A. No. Using the IRP as the basis for determining the sufficiency and deficiency  
14 periods ensures that both processes are consistent in terms of the load forecast  
15 used.

16 **Q. Is the load forecasting methodology currently used by utilities accurately**  
17 **forecasting loads?**

18 A. The Company asserts that its load forecasting methodology reasonably forecasts  
19 loads, notwithstanding the difficulty in making such projections in the current  
20 economic environment.



1 **ISSUE 4**

2 **Q. Is it appropriate to determine resource sufficiency for avoided cost filings in**  
3 **a different manner than is used to determine resource needs for the**  
4 **Integrated Resource Planning Process?**

5 A. No. Under Section 210 of the Public Utility Regulatory Policies Act of 1978  
6 (“PURPA”), Congress directed the Federal Energy Regulatory Commission  
7 (“FERC”) to adopt rules to promote cogeneration and small power production. 16  
8 U.S.C. § 824a-3(a). FERC adopted such rules in 1980 and codified them as 18  
9 C.F.R. Part 292. Both the federal statute and FERC’s rules require that a utility  
10 purchase energy and capacity offered by a qualifying cogeneration facility or a  
11 qualifying small power production facility at a purchase price that does not  
12 exceed the utility’s avoided cost for the energy or capacity. 16 U.S.C. § 824a-  
13 3(b)&(d); 18 C.F.R. § 292.304.<sup>1</sup> In essence, this means that the utility and its  
14 customers should be indifferent to the QF transaction because the total cost of the  
15 transaction represents no more cost than the utility and its customers would  
16 experience if they had to acquire the same amount of energy and capacity by  
17 generating it themselves or purchasing it from others. This requirement is  
18 sometimes referred to as the “customer neutrality” standard of PURPA.  
19 The Oregon avoided cost methodology dictates that the avoided costs to be paid  
20 during the “deficiency” period are to be based on a CCCT, and based on market

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<sup>1</sup> Section 210 of PURPA does not actually use the terminology of “avoided cost,” rather it states that FERC’s rules to promote cogeneration and small power production shall not provide for a purchase rate which exceeds the incremental cost to the utility of alternative electric energy. The statute then defines “incremental cost of alternative energy” as the cost to the utility of the energy which, but for the purchase from the QF, the utility would generate or purchase from another source. See 16 U.S.C. § 824a-3(b)&(d). FERC’s definition of avoided cost is derived from the PURPA concept of incremental cost of alternative energy.

1 prices during the “sufficiency” period. To be consistent with the IRP or IRP  
2 Update, the deficiency period must be based on the year in which the IRP or IRP  
3 Update shows the addition of a CCCT. The period prior to that would be the  
4 sufficiency period. The customer neutrality requirement under PURPA can only  
5 be achieved if the determination of resource sufficiency for avoided cost filings is  
6 consistent with the manner used to determine resource needs in the integrated  
7 resource planning process.

8 **Q. How is the IRP load resource determination (forecast) relevant to the**  
9 **avoided cost sufficiency determination?**

10 A. Absent the linkage between the IRP and IRP Update and determination of  
11 resource sufficiency period discussed above, customer neutrality will not be  
12 achieved and customers will pay higher prices than they otherwise would have  
13 without the acquisition of the QF.

14 **ISSUE 5**

15 **Q. Must a utility be both capacity and energy deficient to be in a position of**  
16 **resource deficiency?**

17 A. Not necessarily. However, pursuant to the methodology adopted by the  
18 Commission in Order 05-584, PacifiCorp is to use a natural gas fired CCCT as a  
19 proxy for the avoided resource in the period of resource deficiency. See Order  
20 No. 05-584 at 27.

21 **Q. Can a utility that is chronically short on capacity and continually building**  
22 **capacity be considered sufficient?**

23 A. Yes. Since a natural gas-fired CCCT is considered to be a base load resource, it

1 is appropriate to determine the resource sufficiency period on both an annual  
2 energy and capacity basis.

3 **ISSUE 6**

4 **Q. How should resource energy and capacities be determined?**

5 A. Resource energy and capacities are determined through the IRP process, where  
6 individual resource characteristics are modeled for capacity expansion  
7 optimization and production cost estimation purposes.

8 **Q. How should a utility forecast capacity, and how does QF capacity factor in to  
9 the determination of a utilities' resource position or the purposes of avoided  
10 cost calculations?**

11 A. PacifiCorp includes existing QF capacity in its capacity load/resource balance if  
12 the QF capacity is considered firm. For the Company's energy load/resource  
13 balance, all existing QF capacity contributes to the energy forecast. The Company  
14 currently assumes that QF resources in the load/resource balance are available for  
15 the duration of the 20-year IRP planning horizon. For future resources, PacifiCorp  
16 does not presume that any portion of needed capacity is QF-based.

17 **Q. Should capacity forecasts impact the sufficiency/deficiency periods?**

18 A. Capacity forecasts ultimately determine, along with other factors, what resources  
19 are included in the Company's preferred portfolio, and hence the determination of  
20 the sufficiency/deficiency periods.

21 **ISSUE 7**

22 **Q. What resources go into the determination of sufficiency/deficiency?**

23 A. The choice of the type of avoided cost resource defines the determination of the

1 sufficiency and deficiency periods. The questions addressing the types of  
2 resources to include in the load/resource balance are moot given that the Oregon  
3 Commission has already determined that the price to be paid a QF in the  
4 deficiency is based on the cost of a new CCCT. Customer neutrality dictates that  
5 the deficiency period begins when the Company plans to add a new CCCT, which  
6 is the result of its IRP or IRP Update. By definition, the sufficiency period  
7 constitutes the years prior to the addition of a CCCT. This approach is consistent  
8 with Order No. 05-584.

9 **Q. Is it appropriate to include short-term firm purchases in base load capacity**  
10 **when calculating resource sufficiency?**

11 A. The Commission has clearly indicated that utilities may employ market purchases  
12 to delay plans to build or acquire long-term generation resources, noting:

13 The calculation of avoided costs when a utility is in a resource  
14 deficient position should reflect longer term resource decisions that  
15 are subject to deferral or avoidance due to QF power purchases.  
16 *Although a utility may acquire market resources as demand*  
17 *gradually builds, at some point the increase in demand warrants the*  
18 *utility making plans to build or acquire long-term generation*  
19 *resources. At that point, calculation of avoided costs should reflect*  
20 *the potential deferral of avoidance of such generation resources.*

21 *See Order No. 05-584 at 27. (emphasis added)*

22 **Q. Should the choice of the type of avoided cost resource affect the**  
23 **determination of resource sufficiency?**

24 A. No. As discussed above, the type of resource is immaterial given the fact that the  
25 Commission has already determined that the price to be paid a QF in the  
26 deficiency is based on the cost of a new CCCT.

1 **Q. Is resource sufficiency and deficiency applicable only to “firm” supply**  
2 **resources?**

3 A. Yes. The basis of PacifiCorp’s load/resource balance and IRP process is to ensure  
4 that both supply reliability and cost-effectiveness are accounted for in determining  
5 the preferred portfolio. Assuming that non-firm resources can be relied upon to  
6 meet peak load requirements is not consistent with these planning objectives.

7 **Q. How does the Oregon Renewable Portfolio Standard factor in the**  
8 **determination of resource sufficiency?**

9 A. The PacifiCorp preferred portfolio includes sufficient renewable resources needed  
10 to meet state Renewable Portfolio Standard requirements, and therefore is  
11 indirectly factored into the determination of resource sufficiency.

12 **ISSUE 8**

13 **Q. How do multiple jurisdictional utilities calculate resource sufficiency?**

14 A. PacifiCorp operates in six states (Oregon, Washington, California, Utah, Wyoming  
15 and Idaho). As a multi-jurisdictional utility, PacifiCorp plans and operates on a  
16 single system basis. Resource sufficiency for the PacifiCorp system is obtained  
17 when available capacity for all resources forecasted to be acquired for a particular  
18 year meet or exceed the hourly system coincident peak load for that year plus a 12  
19 percent planning reserve margin. All of the comments in this testimony presume  
20 that the sufficiency period applies to PacifiCorp’s system as a whole and not to a  
21 particular control area or jurisdiction.

22 **Q. Does this conclude your testimony?**

23 A. Yes