



September 28, 2006

Oregon Public Utility Commission 550 Capitol Street NE, Ste 215 Salem, OR 97301-2551

VIA ELECTRONIC FILING AND OVERNIGHT DELIVERY

Attn: Vikie Bailey-Goggins, Administrator

Regulatory and Technical Support

Re: PacifiCorp's Study of Time-of-Day Rates for Oregon Schedule 48/200

Enclosed for filing are an original and 5 copies of PacifiCorp's Study of Time-of-Day Rates for Oregon Schedule 48/200 Customers. In compliance with Paragraph 7, Subsection (d) (1) of the Fourth Partial Stipulation (Stipulation) accepted by the Commission in Docket UE-170, PacifiCorp (dba, Pacific Power & Light Company) submits the following study. This study has been prepared by the Company in compliance with the following requirement in the Stipulation.

PacifiCorp agrees to complete a study within twelve months of the date of the final Commission order that analyzes the wholesale cost differences between on-peak and off-peak rate differentials. In addition, data shall be collected to analyze the effectiveness of this program and the ability of Schedule 48 customers to change their usage patterns.

Copies of this filing have been served on the UE-170 Service List.

Informal inquiries may be directed to Bill Griffith, Regulatory Director at (503) 813-6051.

With copies to: Katherine A. McDowell

Stoel Rives LLP

900 S.W. Fifth Ave., Suite 2600

Portland, OR 97204

Telephone Nos. (503) 294-9602

Fax No. (503) 220-2480

Email: kamcdowell@stoel.com

Very truly yours,

Andrea L. Kelly / W/

Vice President, Regulation

cc: Service List UE-170

Enclosures

I hereby certify that on this 28th day of September 2006, I caused to be served, via U.S. mail, a true and correct copy of PacifiCorp's Study of Time-of-Day rates for Oregon Schedule 48/200 in Compliance with Paragraph 7, Subsection (d) (1) of the Fourth Partial Stipulation accepted by the Commission in Docket UE-170.

RATES & REGULATORY AFFAIRS PORTLAND GENERAL ELECTRIC RATES & REGULATORY AFFAIRS 121 SW SALMON STREET, 1WTC0702 PORTLAND OR 97204 pge.opuc.filings@pgn.com	JIM ABRAHAMSON CONFIDENTIAL COMMUNITY ACTION DIRECTORS OF OREGON 4035 12TH ST CUTOFF SE STE 110 SALEM OR 97302 jim@cado-oregon.org
GREG ADDINGTON KLAMATH WATER USERS ASSOCIATION 2455 PATTERSON STREET, SUITE 3 KLAMATH FALLS OR 97603 greg@cvcwireless.net	EDWARD BARTELL KLAMATH OFF-PROJECT WATER USERS INC 30474 SPRAGUE RIVER ROAD SPRAGUE RIVER OR 97639
KURT J BOEHM CONFIDENTIAL BOEHM KURTZ & LOWRY 36 E SEVENTH ST - STE 1510 CINCINNATI OH 45202 kboehm@bkllawfirm.com	LISA BROWN WATERWATCH OF OREGON 213 SW ASH ST STE 208 PORTLAND OR 97204 lisa@waterwatch.org
LOWREY R BROWN CONFIDENTIAL CITIZENS' UTILITY BOARD OF OREGON 610 SW BROADWAY, SUITE 308 PORTLAND OR 97205 lowrey@oregoncub.org	PHIL CARVER OREGON DEPARTMENT OF ENERGY 625 MARION ST NE STE 1 SALEM OR 97301-3742 philip.h.carver@state.or.us
JOHN CORBETT YUROK TRIBE 190 KLAMATH BLVD KLAMATH CA 95548 jcorbett@yuroktribe.nsn.us	JOAN COTE CONFIDENTIAL OREGON ENERGY COORDINATORS ASSOCIATION 2585 STATE ST NE SALEM OR 97301 cotej@mwvcaa.org
MELINDA J DAVISON CONFIDENTIAL DAVISON VAN CLEVE PC 333 SW TAYLOR, STE. 400 PORTLAND OR 97204 mail@dvclaw.com	JOHN DEVOE WATERWATCH OF OREGON 213 SW ASH STREET, SUITE 208 PORTLAND OR 97204 john@waterwatch.org
JASON EISDORFER CONFIDENTIAL CITIZENS' UTILITY BOARD OF OREGON 610 SW BROADWAY STE 308 PORTLAND OR 97205 jason@oregoncub.org	RANDALL J FALKENBERG CONFIDENTIAL RFI CONSULTING INC PMB 362 8351 ROSWELL RD ATLANTA GA 30350 consultrfi@aol.com
EDWARD A FINKLEA CONFIDENTIAL CABLE HUSTON BENEDICT HAAGENSEN & LLOYD LLP 1001 SW 5TH, SUITE 2000 PORTLAND OR 97204 efinklea@chbh.com	DAVID HATTON CONFIDENTIAL DEPARTMENT OF JUSTICE REGULATED UTILITY & BUSINESS SECTION 1162 COURT ST NE SALEM OR 97301-4096 david.hatton@state.or.us
JUDY JOHNSON CONFIDENTIAL PUBLIC UTILITY COMMISSION 550 CAPITAL STREET, SUITE 215 SALEM OR 97308-2148 judy.johnson@state.or.us	JASON W JONES CONFIDENTIAL DEPARTMENT OF JUSTICE REGULATED UTILITY & BUSINESS SECTION 1162 COURT ST NE SALEM OR 97301-4096 jason.w.jones@state.or.us

MICHAEL L. KURTZ – CONFIDENTIAL BOEHM, KURTZ & LOWRY 36 E 7TH ST STE 1510 CINCINNATI OH 45202-4454 mkurtz@bkllawfirm.com	JIM MCCARTHY OREGON NATURAL RESOURCES COUNCIL PO BOX 151 ASHLAND OR 97520 jm@onrc.org
KATHERINE A MCDOWELL CONFIDENTIAL SARAH J. ADAMS LIEN 520 SW 6 TH SUITE 830 PORTLAND OR 97204 kamcdowell@stoel.com sarah@mcd-law.com	BILL MCNAMEE PUBLIC UTILITY COMMISSION 550 CAPITAL STREET SUITE 215 SALEM OR 97308-2148 bill.mcnamee@state.or.us
DANIEL W MEEK CONFIDENTIAL DANIEL W MEEK ATTORNEY AT LAW 10949 SW 4TH AVE PORTLAND OR 97219 dan@meek.net	NANCY NEWELL 3917 NE SKIDMORE PORTLAND OR 97211 ogec2@hotmail.com
MICHAEL W ORCUTT HOOPA VALLEY TRIBE FISHERIES DEPT PO BOX 417 HOOPA CA 95546	STEPHEN R PALMER OFFICE OF THE REGIONAL SOLICITOR 2800 COTTAGE WAY, RM E-1712 SACRAMENTO CA 95825
STEVE PEDERY OREGON NATURAL RESOURCES COUNCIL 5825 N GREELEY PORTLAND OR 97217-4145 sp@onrc.org	MATTHEW W PERKINS DAVISON VAN CLEVE PC 333 SW TAYLOR, STE 400 PORTLAND OR 97204 mwp@dvclaw.com
JANET L PREWITT DEPARTMENT OF JUSTICE 1162 COURT ST NE SALEM OR 97301-4096 janet.prewitt@doj.state.or.us	THOMAS P SCHLOSSER MORISSET, SCHLOSSER, JOZWIAK & MCGAW 801 SECOND AVE 1115 NORTON BUILDING SEATTLE WA 98104 t.schlosser@msaj.com
GLEN H SPAIN PACIFIC COAST FEDERATION OF FISHERMEN'S ASSOC PO BOX 11170 EUGENE OR 97440-3370 fish1ifr@aol.com	DOUGLAS C TINGEY PORTLAND GENERAL ELECTRIC 121 SW SALMON 1WTC13 PORTLAND OR 97204 doug.tingey@pgn.com
STEPHEN R. PALMER OFFICE OF REGIONAL SOLICITOR 2800 COTTAGE WAY ROOM-E-1712 SACRAMENTO, CA. 95825	PAUL M WRIGLEY PACIFIC POWER & LIGHT 825 NE MULTNOMAH STE 2000 PORTLAND OR 97232 paul.wrigley@pacificorp.com

Oregon Public Utility Commission

Peggy Ryan
Supervisor Regulatory Administration

PacifiCorp Study of Time-of-Day Rates for Oregon Schedule 48/200 Customers

The following report has been prepared in compliance with the Fourth Partial Stipulation ("Stipulation") filed July 29, 2005 in PacifiCorp's General Rate Case Docket UE-170 and adopted September 28, 2005 with Commission Order 05-1050 in the same docket. The Stipulation provided that time-of-day demand and energy pricing for Schedule 48/200 would be implemented on an experimental basis. The Stipulation further provided that PacifiCorp would complete a study within twelve months of the final Commission order that analyzes the wholesale cost difference between on-peak and off-peak rate differentials and also analyzes the effectiveness of the time-of-day experimental program and the ability of Schedule 48/200 customers to change their usage patterns. This report meets that commitment.

Analysis of Time-of-Day Wholesale Cost Differentials

For this study, the Dow Jones Mid-Columbia Daily Firm Electricity Price Indexes were used to analyze the wholesale cost differences between on-peak and off-peak rates. These data were available to the Company and include data from a major wholesale market hub. A full description of the Dow Jones Mid-Columbia Electricity Price Indexes is provided as Appendix A.

Table 1 below shows the monthly average of Dow Jones Firm Daily Indexes from August 2005 to July 2006.

Table 1 - Wholesale Cost Differences between On-Peak and Off-Peak

		Monthly Average of Daily Indexes							
Deli	very Period	Firm On-Peak	Firm Off-Peak	Differences					
Year	Month	\$/MWh	\$/MWh	\$/MWh					
2005	August	\$71.04	\$54.34	\$16.70					
2005	September	\$80.15	\$67.55	\$12.60					
2005	October	\$86.12	\$79.55	\$6.57					
2005	November	\$64.78	\$62.77	\$2.01					
2005	December	\$109.15	\$92.66	\$16.48					
2006	January	\$57.81	\$46.75	\$11.07					
2006	February	\$51.38	\$48.27	\$3.11					
2006	March	\$44.28	\$43.63	\$0.65					
2006	April	\$24.86	\$13.67	\$11.18					
2006	May	\$30.75	\$13.23	\$17.51					
2006	June	\$36.22	\$13.01	\$23.21					
2006	July	\$69.51	\$44.47	\$25.03					
Annua	ıl Average	\$60.50	\$48.33	\$12.18					

Note: On-peak hours are from 6:00 a.m. to 10:00 p.m., seven days a week including NERC holidays. Off-peak hours are remaining hours.

Source: Dow Jones Firm Mid-Columbia Index

As the data indicate, the on-peak index cost is higher than the off-peak index cost for all twelve months. Based on an average of the twelve months' differences, the on-peak cost is about \$12.18/MWh higher than the off-peak cost. During the twelve month period shown, the smallest cost difference between on-peak and off-peak is \$0.65/MWh in March and the largest cost difference is \$25.03/MWh in July.

The Effectiveness of the Time-of-Day Program and the Ability of Customers to Change Usage Patterns

In May 2006, PacifiCorp prepared a survey for its Schedule 48/200 customers. The survey asked various questions on the effectiveness of the current time-of-day pricing and on the ability of the customer to change usage patterns to take advantage of off-peak rates. A copy of the survey is attached as Appendix B.

PacifiCorp account managers contacted these customers by phone or in person to administer the survey and received 48 responses representing 92 accounts. These accounts represent over 100 megawatts of load and consume approximately 1.4 million megawatt-hours annually.

The following summarizes the survey results and provide an analysis on the effectiveness of the current time-of-day pricing. The detailed survey results are attached as Appendix C.

TOD Energy Charge

In general, the survey results indicate that the customers surveyed were not responsive to the idea of time-of-day pricing. Most indicated that the nature of their operations does not allow them to take advantage of lower off-peak rates. Those who might be able to shift usage claimed the financial incentives for doing so are not sufficient. Only one customer indicated that it had attempted to take advantage of off-peak rates. That customer indicated that it had no success and saw no savings as a result of the attempt.

Eighty-eight percent of customers responding to the survey claimed that they cannot shift their energy usage to the off-peak period. Comments on the surveys suggest that, based on the nature of operations, closer to 65 percent of customers are probably unable to shift load. Many of these customers indicated that they already run 24 hours a day, 7 days a week. Others indicate that they must run at certain times due to external factors out of their control or that labor is not available during off-peak periods.

Customers who indicated either directly or indirectly through comments that they could shift load, suggested that time-of-day electricity pricing is not as important as other factors in determining operating schedules. In large part, this is due to the low overall cost of electricity from Pacific Power. More important factors in scheduling operations include the cost of labor, coordination with the product transportation to and from the facility, the schedule for delivery to clients and the availability and willingness of employees to work off-peak periods. Other factors included the safety and productivity of employees at night.

The current Schedule 48/200 on-peak/off-peak energy charge differential of 0.1 cents per kilowatt-hour was also cited as a reason for not being able to take advantage of off-peak rates. This tariff differential contrasts strikingly to the average on-peak/off-peak market price differential of 1.2 cents per kilowatt-hour --twelve times the tariff differential. Customers indicated that the savings would need to be more significant and must be enough to offset other higher costs of operating at night, especially labor costs. Seventy-three percent of respondents, including many who cannot shift load, indicated that the 0.1 cent per kilowatt-hour differential between on and off peak rates is too small. The remaining respondents had no opinion. Not one of the respondents indicated that the differential was too large or just right.

TOD Demand Charge

Three respondents indicated that the demand time-of-day pricing was useful for their company. These customers also indicated that they did not attempt to take advantage of the time-of-day pricing leading to the assumption that the peak demand for these customers was already in the off peak period.

Industry Types

In evaluating the survey responses, we divided customers into four groups based on their end use: 1. Wood Product Processors, 2. Manufacturers, 3. Food Processors, and 4. Office Buildings and Commercial Establishments. Customers within these four groups prove to be fairly similar in the circumstances surrounding their ability or inability to shift load in order to take advantage of time-of-day pricing.

- 1. Wood Product Processors: Twenty respondents (42 percent of all respondents) fell into this category of which 40 percent indicated that they cannot shift load into the off-peak period, regardless of the pricing of electricity. These customers indicated that their labor intensive industry required greater attention to employee preference on working hours. Also at issue was the coordination of timing with the arrival of trucks carrying product to be processed and the arrival of ships awaiting finished product to be distributed.
- 2. Manufacturers: Thirteen respondents (27 percent of all respondents) fell into this category of which 77 percent indicated that they cannot shift load into the off-peak period, regardless of the pricing of electricity. The majority of the large manufacturers already run 24 hours a day, 7 days a week. Some companies' operations are order-based and, therefore, timing is dictated by deadlines. These customers also face human resource issues and transportation issues similar to wood product processors.
- 3. Food Processors: Seven respondents (15 percent of all respondents) fell into this category of which 71 percent indicated that they cannot shift load into the off-peak period, regardless of the pricing of electricity. Many of these companies process seafood and, due to the early morning arrival of fresh product, their peak usage coincidentally occurs during the off-peak hours. Food processors must operate at certain times in order

to keep food from spoiling. Operations must coordinate with the arrival and departure of product transportation.

4. Office Buildings and Commercial Establishments: Eight respondents (17 percent of all respondents) fell into this category of which all eight indicated that they cannot shift load into the off-peak period, regardless of the pricing of electricity. These customers must operate during the hours in which their clients and customers are utilizing the facilities. Their demand peak usually falls during on-peak hours due to air conditioning in the late afternoon.

Load Research Data

In addition to the customer survey, PacifiCorp analyzed load research data for Schedule 48 customers for the period of October 2004 to July 2006. The purpose of this analysis was to assess the usage patterns in the collected data and evaluate the realized effectiveness of time-of-day pricing. Table 2 summarizes the load research results. For more details, please see Appendix D.

Table 2 - Schedule 48 Load Research Summary

	Ene	ergy	Demand				
Period	On-peak kWh	Off-peak kWh	On-peak kW	Off-peak kW			
Oct 04 to Jul 05	60.2%	39.8%	52.5%	47.5%			
Oct 05 to Jul 06	60.4%	39.6%	52.4%	47.6%			
Change	0.2%	-0.2%	-0.1%	0.1%			

Note: On-peak hours are from 6:00 a.m. to 10:00 p.m. Monday through Saturday excluding NERC holidays. Off-peak hours are remaining hours.

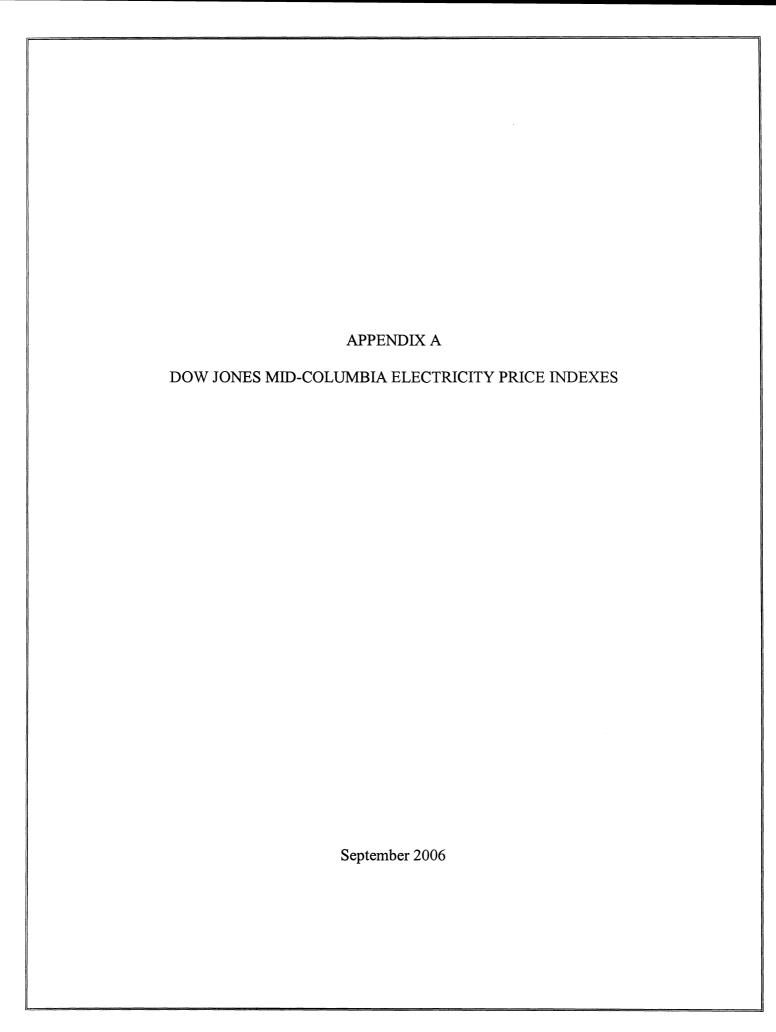
Due to required timeframe for this report, there are only 10 months of post-implementation data available. To match the timeframes, ten months data for each period are used in this analysis. This comparison shows that the on-peak energy usage is about 60.2% of the total usage on an average basis from October 2004 to July 2005, prior to the implementation of time-of-day pricing. The on-peak energy usage from October 2005 to July 2006, post-implementation of time-of-day pricing, is about 60.4%. The percentage of on-peak energy usage after the adoption of time of day pricing actually increased by 0.2%. On the demand side, the percentage of on-peak demand slightly decreased by about 0.1% from 52.5% prior to the implementation of the time-of-day rate to 52.4% after the pricing change.

In conclusion, the load research data indicate that the average energy usage pattern of Schedule 48 customers did not change after the implementation of time-of-day pricing for Schedule 48. This result is consistent with the findings in the customer survey.

Conclusions

The main findings from this study can be summarized as follows:

- In the study period, on-peak wholesale energy costs were higher than off-peak costs. Based on an average of the twelve monthly differences, the on-peak wholesale energy cost was about \$12.18/MWh, or 1.2 cents/kWh, higher than the off-peak cost based on the Dow Jones Mid-Columbia Electricity Price Indexes from August 2005 to July 2006. As a point of reference, this amount is twelve times larger than the on-peak/off-peak energy charge differential in Schedule 48/200.
- The analysis of load research data indicated no change in energy usage patterns for Schedule 48 customers after the implementation of time of day pricing.
- The survey results indicate that many Schedule 48 customers do not seem responsive to time-of-day pricing due to the nature of their operations.
- The survey results also indicate the current financial incentive is insufficient for those who might be able to shift usage from doing so.
- Due to the lack of change in energy usage patterns, PacifiCorp has not experienced any reduction in on-peak energy usage.





WHOLESALE ELECTRICITY PRICE INDEXES

MID-COLUMBIA

The Dow Jones Mid-Columbia Electricity Price Indexes are volume weighted averages of specifically defined bilateral, wholesale, physical transactions. Calculations for these indexes average together power transactions from Columbia, Midway, Rocky Reach, Wells, and Wanapum/Vantage, delivery points along the Columbia River.

Index participants provide Dow Jones with their daily volume weighted average prices and total volumes for eligible electricity products sold at the Mid-Columbia delivery points, as well as with any purchases made from entities not contributing to the indexes.

Participants are asked to provide Dow Jones with daily index data by 10 a.m. Pacific Time, the day after the transacted power moves. Although some Mid-Columbia electricity indexes will be calculated for 365 days of the year, publication will occur only on business days. If a holiday falls during the week, data should be transmitted to Dow Jones on the first business day following a break

INDEX CATEGORIES DAILY SUNDAY AND NERC HOLIDAYS Firm On-peak Firm Off-peak Non-Firm On-peak Non-Firm Off-peak

The following definitions have been designed to insure that each index category represents a specific power product. Since each category has a unique definition, no single transaction can be included in more than one category. If a transaction does not precisely fit into an index category, it will not be included in our index calculations.

Firm Daily Indexes: The firm daily indexes average together blocks of power sold on a one-day forward pre-scheduled basis. No real-time power is included in these indexes. Transactions are limited to power traded in 16-hour blocks during on-peak hours and 8-hour blocks for off-peak. Transactions which call for delivery for more than one day are not included in calculations for these indexes. Volume should be reported to Dow Jones as total megawatts transacted per hour.

Firm Sunday and NERC Holidays Index: A 24-hour firm index will be published for Sundays and NERC holidays. Transactions included in this index are limited to power traded in 24-hour pre-scheduled blocks.

Non-firm Daily Indexes: The non-firm indexes combine one day ahead pre-scheduled transactions with real-time transactions. The non-firm indexes follow the same convention as the firm indexes with respect to single day delivery. Volumes reported for these indexes should reflect the total number of MWh transacted for the entire ON- or OFF-PEAK reporting period.

TERMINOLOGY

On-peak Hours: Hours ending 0700 - 2200 (6 a.m. - 10 p.m.) Pacific Time at Mid-Columbia, seven (7) days a week <u>including</u> NERC holidays.

Off-peak Hours: Hours ending 2300 - 0600 (10 p.m. - 6 a.m.) Pacific Time at Mid-Columbia, seven (7) days a week including NERC holidays.

Firm Energy: Firm energy is defined as meeting a minimum criteria of being financially firm and backed with liquidating damages.

Non-firm Energy: Non-firm energy is defined as being subject to interruption at any time for any reason. Any recall provision would be for less than one hour from the scheduled start of service.

<u>NOTE</u>: Power conforming to any other measures of "firmness" should not be included in the Mid-Columbia indexes.

INDEX DATES

Daily Indexes: INDEX DATE = POWER DELIVERY DATE

The date on a daily index corresponds to the date the power is delivered. For example, Monday's prescheduled transactions are combined with Tuesday's real-time transactions to form Tuesday's index.

- Both Mid-C FIRM daily indexes are calculated seven days a week, including NERC holidays
- Both Mid-C NON-FIRM daily indexes are calculated seven days a week, including NERC holidays
- The Mid-C 24-Hour FIRM index will be calculated for Sundays and NERC Holidays.

DATA CONTRIBUTORS

American Electric Power

Aquila Power Corporation

Avista Corporation (Washington Water Power)

Avista Energy, Incorporated

Chelan Public Utility District

CMS Marketing Services and Trading Company

Douglas County Public Utility District

Duke Power Marketing

DuPont Power Marketing

Dynegy Incorporated (Electric Clearinghouse Inc.)

El Paso Energy

Engage Energy U.S. L.P.

Enron Corporation

Eugene Water & Electric Board

Hafslund Energy Trading, LLC

Idaho Power Company

LG&E Energy Marketing

Merchant Energy Group of the Americas

McMinnville Water and Light

MIECO Incorporated

Montana Power Company

Morgan Stanley & Company Incorporated

New Century Energies (Public Service of Colorado)

PacifiCorp.

Pennsylvania Power & Light EnergyPlus, LLC. (PP&L EnergyPlus, LLC)

PG&E Energy Trading (US Gen.)

Portland General Electric (Enron Corporation)

Powerex (British Columbia Power Exchange Corporation)

Puget Sound Energy Inc. (Puget Sound Power & Light)

Reliant Energy (NorAm Energy Services, Inc.)

Seattle City Light

Sempra Energy Trading Corporation

Silicon Valley Power (City of Santa Clara)

Snohomish County Public Utility District

Southern Company Energy Marketing L.P.

TransAlta Energy Marketing (US) Incorporated

TransCanada Energy

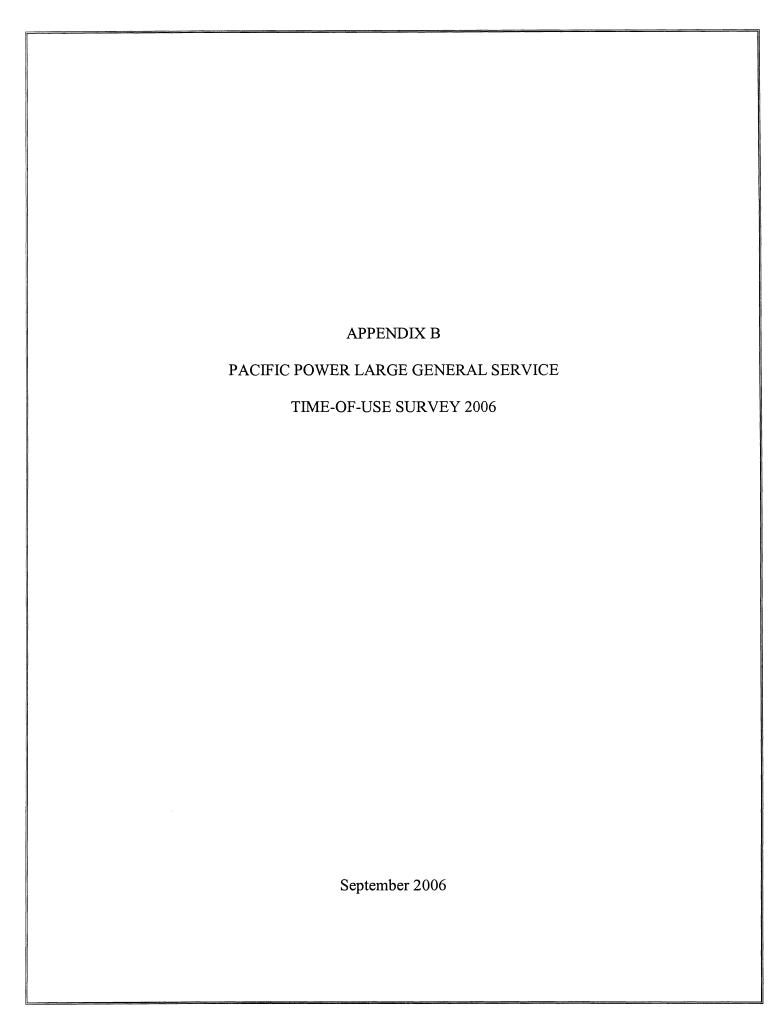
US Generating Power Services (PG&E Energy Trading)

Vitol Gas & Electric (AVISTA ENERGY)

Washington Water Power (AVISTA Corp.)

If you have any questions or if any information on this sheet is not expressed clearly, please call Antoine Eustache at (609) 520-7058 or Ernest Onukogu at (609) 520-4663.

If you have not received this sheet directly from the News Product Development index group, please check with us to insure that you are working with a current definition.



<u>Background:</u> With completion of the Oregon General Rate Case in October 2005, Pacific Power changed the Large General Service Schedule 48 demand charge to apply to on-peak demand only and implemented time-of-use energy charges resulting in a difference of 0.1¢ per kWh between the on- and off-peak energy charges.

The on-peak period is defined as the hours from 6:00 a.m. to 10:00 p.m. Monday through Saturday excluding most holidays. All other hours are off-peak hours.

	Yes	No		
2			mand charge, were you aware that the demand charge is demand amounts registered in the on-peak period are	
	Yes	No		
If the		he Schedule 48 ene	3A. ergy charge, were you aware that a 0.1¢ per kWh price off-peak energy charges for Schedule 48?	
	Yes	No		
	answer is Yes, pleas answer is No to both			
3.	A. Did your com	pany make an effor	ort to take advantage of the time of use demand charge?	
	Yes	No		
If the	answer is Yes, pleas	e answer questions	4-6. If the answer is No, please answer question 7.	
	B. Did your com	pany make an effo	ort to take advantage of the time of use energy price?	
	Yes	No		
If the	answer is Yes, pleas	e answer questions	8-10. If the answer is No, please answer question 11.	
		mand:		
	•		on-peak demand to the off-peak period?	
4. H	ow successful was y Very successful	Successful	Not successful	
4. H 5. Pl	ow successful was y Very successful ease estimate by ho	Successful w many kW you ha	Not successful ave lowered your monthly on-peak demand.	
4. H	ow successful was y Very successful	Successful w many kW you ha	Not successful ave lowered your monthly on-peak demand.	
4. H 5. Pl	Very successful was y Very successful ease estimate by ho 1-5 6-10 11-3	Successful w many kW you ha 0 31-50 51-100	Not successful ave lowered your monthly on-peak demand.	?

No Change in On-Peak Demand:

- 7. Please explain why your company did not make an effort to move on-peak demand to the off-peak period in order to take advantage of the time of use demand charge (Choose all that apply):
 - a) Due to the nature of operations, the company is not able to shift demand to off-peak times.
 - b) The company estimates that it could not shift demand to the off-peak period sufficiently enough to result in any savings.
 - c) The company has plans to change operations but they have not yet been implemented.
 - d) The company did not evaluate a shift in peak demand.

e)	Other:_					

Change in Time-of-Use Energy Consumption:

8. How successful was your company's effort to shift energy usage to off-peak?

Very successful

Successful

Not successful

9. Please estimate the percentage of former on-peak usage that your company was able to shift to off-peak usage.

0% 1-5% 6-10% 11-20% 21-30% 31-40% 41-50% More than 50%

10. Was your company able to see bill savings based on your company's change in energy usage?

Yes, a lot

Yes, some

No

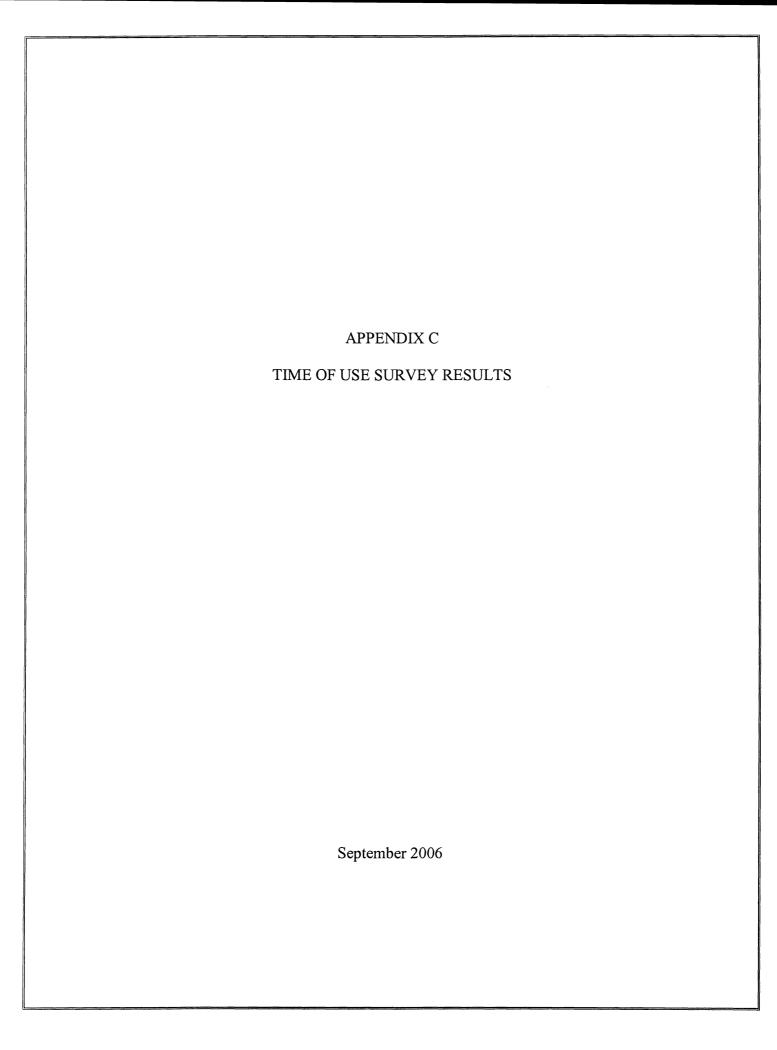
Not Sure

No Change in Time-of Use Energy Consumption:

- 11. Please explain why your company did not make an effort to change energy usage patterns to take advantage of lower-off peak prices (Choose all that apply):
 - a) Due to the nature of operations, the company is not able to shift energy usage to off-peak times.
 - b) The company estimates that it could not shift enough energy usage to the off-peak period to result in any savings.
 - c) The company has plans to change usage patterns but they have not yet been implemented.
 - d) The company did not evaluate a shift in energy usage.

e)	Other:	

	w much of a factor are time-of-use electricity rates (or how much of a factor could they be) in ompany's scheduling of operations?
a)	Not a factor
b)	A small factor
c)	A large factor
13. Ha	as the addition of a time of use demand charge been a useful change for your Company?
a)	Yes
b)	No
c)	No opinion
	the current time of use price differential of 0.1¢ per kWh between on- and off-peak energy a useful difference for your Company:
d)	It is a good amount
e)	It is too large
f)	It is too small
g)	No opinion
	the time of use energy price differential were to increase (that is, higher on-peak rates and/or off-peak rates) how likely is it that your company would be able to shift more usage to the off-period?
a)	Very likely At What Differential?
b)	Somewhat likely
c)	Not likely
d)	My company cannot shift usage
Other o	comments:
•	

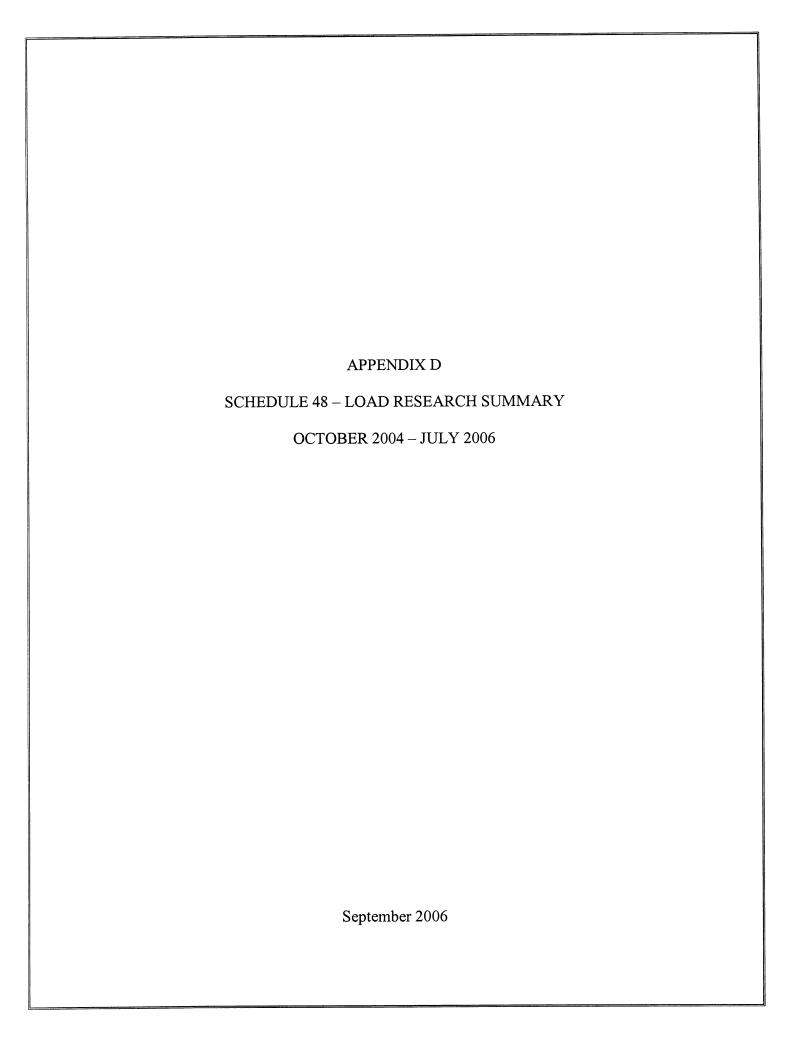


PacifiCorp Time of Use Survey Results Answer Grid

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*Schedule 47 Customer, not included in survey analysis



PACIFICORP - STATE OF OREGON SCHEDULE 48 - LOAD RESEARCH SUMMARY 10 MONTHS ENDING JULY 2005 ON-PEAK 6AM TO 10PM MONDAY THROUGH SATURDAY

MONTH	TOTAL KWH	6AM-10PM ON-PEAK KWH	10PM-6AM OFF-PEAK KWH	6AM-10PM ON-PEAK KW	10PM-6AM OFF-PEAK KW
Oct-04	311,568,082	187,485,579	124,082,503	681,016	608,415
Nov-04	251,002,406	150,782,810	100,219,596	537,488	489,064
Dec-04	232,974,039	140,503,813	92,470,225	490,281	447,174
Jan-05	242,110,558	142,052,675	100,057,882	493,110	440,711
Feb-05	224,729,515	137,716,810	87,012,706	487,531	445,891
Mar-05	254,619,708	158,461,265	96,158,443	501,323	451,714
Apr-05	242,604,363	150,096,697	92,507,666	518,849	453,492
May-05	253,066,254	148,404,611	104,661,643	540,885	487,566
Jun-05	296,157,783	181,094,498	115,063,285	596,964	542,986
Jul-05	282,218,058	163,145,543	119,072,516	594,951	551,729
Aug-05					
Sep-05					
	2,591,050,766	1,559,744,301	1,031,306,465	5,442,397	4,918,742
Ratio		60.2%	39.8%	52.5%	47.5%

PACIFICORP - STATE OF OREGON SCHEDULE 48 - LOAD RESEARCH SUMMARY 10 MONTHS ENDING July 2006 ON-PEAK 6AM TO 10PM MONDAY THROUGH SATURDAY

MONTH	TOTAL KWH	6AM-10PM ON-PEAK KWH	10PM-6AM OFF-PEAK KWH	6AM-10PM ON-PEAK KW	10PM-6AM OFF-PEAK KW
Oct-05	249,298,096	150,817,867	98,480,229	523,967	473,004
Nov-05	234,784,250	141,509,559	93,274,691	507,635	464,333
Dec-05	237,104,523	143,264,807	93,839,715	510,642	464,205
Jan-06	246,823,135	145,140,101	101,683,034	488,704	454,099
Feb-06	226,873,456	139,272,781	87,600,675	506,443	455,075
Mar-06	252,521,393	157,311,051	95,210,342	516,590	465,377
Apr-06	244,168,459	146,508,216	97,660,243	525,739	471,313
May-06	265,875,561	161,028,202	104,847,359	557,189	511,248
Jun-06	268,043,088	165,140,997	102,902,091	556,432	503,667
Jul-06	283,238,146	164,187,865	119,050,281	582,627	532,625
Aug-06					
Sep-06					
	2,508,730,107	1,514,181,446	994,548,661	5,275,968	4,794,946
Ratio		60.4%	39.6%	52.4%	47.6%
Change %		0.2%	-0.2%	-0.1%	0.1%