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BEFORE THE PUBLIC UTILITIES COMMISSION OF COLORADO
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DOCKET NO. 07A-447E

IN THE MATTER OF THE APPLICATION OF PUBLIC SERVICE COMPANY
OF COLORADO FOR APPROVAL OF 2007 COLORADO RESOURCE PLAN
AND PETITION FOR WAIVER OF COMPETITIVE PROCUREMENT RULES
TO REPLACE CAMEO AND ARAPAHOE COAL UNITS WITH A NATURAL
GAS COMBINED CYCLE PLANT AT ARAPAHOE STATION

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SUPPLEMENTAL AND CROSS ANSWER TESTIMONY
OF
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June 9, 2008



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Attachment 17: "Big Solar Project Planned for Arizona Desert," US News and World Report, February 21, 2008

Attachment 18: "PG&E Signs Contracts with BrightSource Energy for up to 900 Megawatts of Solar Thermal Power," Press Release, April 1, 2008

Attachment 19: "So Cal Edison, eSolar Enter 245 MW Power Pact," Reuters, June 3, 2008

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I. INTRODUCTION AND SUMMARY

Q: PLEASE STATE YOUR NAME AND CONTACT INFORMATION.

A: My name is Leslie Glustrom. I am a citizen intervener in this Docket representing myself. My address is 4492 Burr Place, Boulder, Colorado 80303, my phone number is 303-245-8637 and my e-mail is lglustrom@gmail.com. I also prepared Answer Testimony in this Docket which was submitted on April 28, 2008.

Q: PLEASE SUMMARIZE THE ISSUES DISCUSSED IN THIS SUPPLEMENTAL AND CROSS ANSWER TESTIMONY.

A: My Supplemental and Cross Answer Testimony will discuss the following issues:

1) Future Coal Costs Are Likely to Be Much Higher Than Xcel¹ Predicts:

Xcel's predictions of future coal costs are extremely low and are contradicted by multiple lines of evidence. For example, according to Xcel data, they paid more for coal in 2007 than they predict they will be paying in 2020. Coal costs for all coal plants have increased significantly between 2005 and 2007 with increases ranging from 3.93% at the Pawnee Plant to 53.83% at the Hayden plant according to Xcel data. Short mine lives and increasing overburden and other geologic constraints are likely to push future coal costs even higher. Further details are provided in the testimony below.

2) Coal Plant Retirements are Strongly Supported by Economic,

Environmental and Ethical Arguments: Operating costs at Xcel's coal plants are already significant and are likely to mount much higher in the coming years due to coal costs, coming carbon regulation as well as needed capital investments and increases in

¹ In this testimony, "Xcel" or "Xcel in Colorado" is used to mean the "Public Service Company of Colorado" unless otherwise indicated. Ratepayers pay their bills to "Xcel" and many (especially younger) ratepayers are not familiar with the name Public Service Company of Colorado. I use "Xcel" to help ratepayers and lay readers better understand the testimony.

other operating costs including ash disposal, cooling water costs and emissions management. Environmentally, the climate change scientists have made it clear that the need to reduce carbon emissions is urgent. The Arctic Ice is melting much faster than even the most pessimistic models had predicted and as the permafrost unfreezes and releases vast stores of carbon, the need to reduce anthropogenic emissions of greenhouse gases such as carbon dioxide becomes increasingly urgent. Coal plants are the largest single source of carbon dioxide in the state and as we replace coal plants with low carbon sources we will also reduce emissions of other pollutants including particulates, oxides of nitrogen and sulfur, volatile organic compounds and mercury. By retiring coal plants we can begin to build an infrastructure for this century rather than investing ever increasing amounts of money in the fuel and operating costs associated with coal plants—the technology of the last century. Coal plant retirements are also strongly supported by an ethical consideration of the suffering that will be caused to millions of people around the world and to the other species that we share the planet with as a result of the emission of greenhouse gases such as carbon dioxide—as well as all of the other pollutants emitted by coal plants.

3) The Demand on Xcel’s System that is Experienced Less Than 10% of the Time is Increasing Rapidly—It Should Receive Special Attention: The demand experienced less than 10% of the time on Xcel’s system in Colorado is growing rapidly and Xcel has underestimated its peak demand each of the last four years—typically by 200 MW or more. While the rest of demand on Xcel’s Colorado system is growing at a generally predictable rate, the peak demand is growing in a non-linear fashion. As the planet warms and the Arctic ice melts, predicting and managing the rapidly growing

summer peak is likely to become increasingly difficult and should receive focused attention from the Public Utilities Commission (“PUC”) and the parties to PUC proceedings. Building fossil fuel plants to meet the summer peak is expensive and counterproductive due to the carbon emissions associated with fossil fuel use which will increase planetary temperatures and make the summer peak even worse for future generations. Low-carbon ways to start addressing the summer peak include increased attention to demand response and demand management efforts and increased use of photovoltaic and concentrating solar power technologies, as well as increasing efforts to introduce vehicle-to-grid technologies which can help mitigate peak demand issues.

4) House Bill 08-1164 Has Been Signed by the Governor; Concentrating Solar Power Technologies Are Being Adopted by Other Utilities and Xcel Should Accelerate Its Efforts to Adopt This Carbon Free Form of Meeting the Summer Peak Demand: House Bill 08-1164 was signed by Governor Bill Ritter on Monday June 2, 2008 at a ceremony in the San Luis Valley. This new law:

a) Grants the PUC the authority to consider the risk of higher future costs associated with the emission of greenhouse gases such as carbon dioxide (C.R.S. 40-2-123 (1)(b));

b) States the following:

In order to diversify Colorado’s energy resources, attract new businesses and jobs, promote development of rural economies, minimize water use for electric generation, reduce the impact of volatile fuel prices and improve the natural environment of the state, the General Assembly finds it in the best interests of the citizens of Colorado to develop and utilize solar energy resources in increasing amounts. (C.R.S. § 40-2-123 (3) (a) (I)).

c) Grants the PUC the authority in C.R.S. § 40-2-123 (3) (b) to consider the potential attributes of utility-scale solar electric generation²:

- (I) Whether the proposed solar generation could provide energy storage to match the times during which utility generation is generally higher cost;
- (II) Whether the proposed generation, due to modularity, scalability, and rapid deployment, could result in reduction of performance and financial risk for the utility;
- (III) Whether the utility-scale solar electric generation could reduce the consumption of water for electric generation;
- (IV) Whether future costs can be stabilized through mitigation of the impact of unpredictable fossil fuel prices;
- (V) Whether carbon-free generation reduces long-term costs and risks related to potential carbon regulation or taxation;

As discussed in this Supplemental and Cross Answer Testimony and as seen in Attachments 15-19, other utilities are proceeding with Concentrating Solar Power developments ranging from 177 MW to 900 MW with the developments expected to start coming on line as early as 2010. The PUC should require Xcel to issue a Request for Proposals for utility-scale solar generation to come on line beginning in 2011 and direct Xcel, the Independent Evaluator and other parties to these proceedings to give thoughtful consideration to the issues outlined in recently enacted HB08-1164.

5) Communities Served by Xcel Want to Exceed the 20% by 2020 Renewable Energy Standard; the Commission Should Anticipate and Facilitate These Efforts:

Several municipalities that are served by Xcel in Colorado have made it clear that they are interested in a more rapid decarbonization and adoption of renewable energy than that provided by the 20% by 2020 standard in C.R.S. § 40-2-124 (1) (c). The City of Golden has adopted an ordinance calling for 50% renewable energy by 2015 (See Attachment 23 to this Supplemental and Cross Answer Testimony) and the cities of Boulder and Aurora are also interested in increasing the amount of renewable energy beyond that required by

² “Utility-scale” for solar generation is defined as being in excess of 2 MW (C.R.S. 40-2-123 (3) (a) (II)).

the state Renewable Energy Standard contained in C.R.S. § 40-2-124. The PUC should recognize and facilitate these efforts and require Xcel to consider all possible means of meeting these communities' renewable energy goals.

II. FUTURE COAL COSTS ARE LIKELY TO BE MUCH HIGHER THAN XCEL HAS PREDICTED³

Q: COMMISSION DECISION C08-0539 INVITED INFORMATION ON THE COST OF COAL. PLEASE EXPLAIN WHAT XCEL PREDICTS FOR THE FUTURE PRICE OF COAL AND HOW IT COMPARES TO COAL PRICES PAID IN RECENT YEARS.

A: Multiple lines of evidence indicate that Xcel's projections for the cost of coal are exceedingly low and should be replaced with much higher estimates. Xcel has based its estimate on a variety of forecasts⁴ and has predicted that coal prices will remain close to flat for the entire Resource Acquisition and Planning Periods as seen in Figure 1.7-1 on page 1-56 of Volume 1 of the Resource Plan. A table of the data points used for the fuel cost projections is found in the response to Discovery Request LWG 1-4 which is Attachment 31 to the Answer Testimony of Leslie Glustrom in this Docket. The data points shown in this Attachment indicate that Xcel projected the following prices for delivered coal in Colorado.

2007	\$1.02 per MMBTU delivered
2015	\$1.08 per MMBTU delivered
2030	\$1.37 per MMBTU delivered
2046	\$1.98 per MMBTU delivered ⁵

³ This section on coal costs is included in response to Commission Decision C08-0539, paragraph 5 requesting further information on modeling inputs including the cost of coal.

⁴ Page 1-55 and 1-56, Volume 1, "2007 Colorado Resource Plan," Public Service Company of Colorado Docket 07A-447E. Coal costs are projected to increase at a rate of 2.33% beyond 2030. (See page 1-55).

⁵ See LWG 1-4 (f) in Attachment 31 to the Answer Testimony of Leslie Glustrom in this Docket 07A-447E.

These projected costs equate to the following total increases and percentage increases for the following periods:

2007-2015	\$.06 total increase	5.88% increase over 8 years
2015-2030	\$.29 total increase	26.85% increase over 15 years
2030-2046	\$.61 total increase	44.52% increase over 15 years

As will be described further below, these increases are very small and in the real world Xcel has experienced increased coal costs that have exceed all of these projected increases in just the two year period between 2005 and 2007. Importantly, without long term contracts in place for coal (as shown in Table 3 below), ratepayers are left completely vulnerable to the future increases in coal costs which Xcel will pass through to ratepayers under the Electric Commodity Adjustment (“ECA”) mechanism as it stands presently.⁶

Astoundingly, Xcel has predicted that it won’t be paying \$1.20 per MMBTU for delivered coal until 2020,⁷ but (as shown in Attachment 31 to the Answer Testimony of Leslie Glustrom in this 07A-447E Docket) Xcel in Colorado paid \$1.25 per MMBTU for coal delivered in 2006 and \$1.20 per MMBTU for coal delivered in 2007.⁸ For reasons that aren’t clear, it appears that the part of the Company that predicts coal prices didn’t consult with the part of the Company that actually pays for coal.

Q: PLEASE DESCRIBE THE OTHER EVIDENCE YOU HAVE REGARDING COAL PRICES THAT COULD BE USED IN PHASE 2 OF THESE PROCEEDINGS.

⁶ See Decision C06-1379 in Docket 06S-234 EG regarding the ECA pass through of fuel costs.

⁷ See LWG 1-4 (f) in Attachment 31 to the Answer Testimony of Leslie Glustrom, April 28, 2008

⁸ See LWG 1-4 (b) in Attachment 31 to the Answer Testimony of Leslie Glustrom, April 28, 2008

A: Predicting the future price of fossil fuels is essentially impossible these days. Just in the last year we've seen the price of oil go from about \$70 a barrel to over \$139 a barrel on Friday June 6, 2008. Natural gas prices are also volatile and very high as addressed in the Testimonies of Steve Andrews and Dave Hughes (sponsored by Ms. LaPlaca).

Exactly what the future price of any fossil fuel will be appears to be anyone's guess, but the concept that somehow coal prices will stay close to flat as suggested in Figure 1.7-1 on page 1-56 of Xcel's Volume 1 defies both readily available information about past prices and reasonable conjecture about future prices. Examples of the evidence that is available include:

1) Energy Information Administration Information on the Cost of Coal Between 2005 and 2006 Shows 12% Increase for Colorado Coal and 17% Increase for Wyoming Coal: The United States Energy Information Administration ("EIA") collects data on all energy sources, including coal and then tabulates it. This information is available from <http://www.eia.doe.gov/fuelcoal.html> . Among other data, the EIA collected data on the open market sales price of coal by state and mine type. Contained in Table 28 available at <http://www.eia.doe.gov/cneaf/coal/page/acr/table28.html> and is included as Attachment 27 to the Answer Testimony of Leslie Glustrom in this Docket. EIA's Table 28 for 2006 and 2005 shows the following information for coal from Colorado and Wyoming—the two sources of coal used in Xcel's Colorado coal plants.⁹

⁹ The source of coal used for Xcel's Colorado coal plants is contained in Attachment 32 to the Answer Testimony of Leslie Glustrom in this 07A-447E Docket.

**LWG Supplemental/Cross Answer Table 1
EIA Data on 2006 v. 2005 Open Market Coal Prices**

(Data From EIA Table 28 in Attachment 27, LWG Answer Testimony Docket 07A-447E.
Table Available from <http://www.eia.doe.gov/cneaf/coal/page/acr/table28.html>)

State	Average 2006 Price	Average 2005 Price	% Change 2006-2005
Colorado	\$24.27 per short ton	\$21.63 per short ton	12.2% Increase
Wyoming	\$9.03 per short ton	\$7.71 per short ton	17.2% Increase

As seen in Attachment 1 to this Supplemental and Cross Answer Testimony of Leslie Glustrom, Xcel's long term contracts for coal began to expire in 2005 and 2006¹⁰ and so the open market prices paid can be indicative of what is likely to happen to coal prices paid by Xcel for its Colorado coal plants. Information on prices paid by Xcel for its Colorado plants is described further below.

2) Xcel's Data on the Average Price of Coal Paid Shows a 25% Increase in the Cost of Delivered Coal Between 2005 and 2007. Data on the price paid by Xcel for its coal are contained in the response to Discovery Request LWG 1-4 in Attachment 31 to the Answer Testimony of Leslie Glustrom in this 07A-447E Docket. Shown below are the costs of coal and freight on a Million BTU ("MMBTU") basis for the years 2005 and 2007 and the percentage increase between those two years.

¹⁰ Attachment 1 to the Supplemental and Cross Answer Testimony of Leslie Glustrom in this 07A-447E Docket refers to all of the coal contracts for the entire Xcel system, but is indicative of what is happening to Xcel's Colorado coal contracts. Attachment 1 to this Supplemental and Cross Answer testimony is taken from a September 2005 Xcel Powerpoint presentation given to investors, and shows the following amounts of coal were under contract for the entire Xcel System

2005	99%
2006	78%
2007	65%
2008	46%

More information on coal contracts for Xcel's Colorado coal plants is available in Attachment 32 to the Answer Testimony of Leslie Glustrom in this 07A-447E Docket

**LWG Supplemental/Cross Answer Table 2
Xcel's Average Cost of Coal 2005 and 2007**

(Data from Attachment 31 to the Answer Testimony of Leslie Glustrom Docket 07A-447E)

	2005 Cost per MMBTU	2007 Cost per MMBTU	2007-2005 % Change
Coal	\$0.58	\$0.73	25.86% Increase
Freight	\$0.38	\$0.47	23.68% Increase
Total	\$0.96	\$1.20	25% Increase

Attachment 1 to this Supplemental and Cross Answer testimony indicates that Xcel's coal contracts began expiring in 2006 which can explain the large increase over the two year period between 2005 and 2007.

Attachment 9 to this Supplemental and Cross Answer Testimony of Leslie Glustrom (Docket 07A-447E) notes that the cost of coal for Xcel in Colorado went from \$0.73 MMBTU in February 2008 to \$0.90 in March 2008 which is a 23% increase in one month alone—and a month in which 100% of the coal was under contract—so it isn't clear how the price of coal could increase so much—but it does indicate that Xcel's assumptions about the price of coal staying essentially flat until 2046 are highly questionable.

3) Xcel Has Very Little of Its Coal and Freight Under Contract for the Years From 2010 on Out; This Makes the Xcel System in Colorado Vulnerable to Possible Increases in the Costs of Coal and Freight: Attachment 33 to the Answer Testimony of Leslie Glustrom in this 07A-447E Docket indicates that Xcel has very little coal or its freight under long term contract for the next several years as seen in Table 3 below. This makes Xcel in Colorado, and its ratepayers, vulnerable to increasing costs for coal and

freight. In Attachment 30 to the Answer Testimony of Leslie Glustrom in this 07A-447E Docket Peabody coal notes that the Coal and Energy Price Reports for January 3, 2007 and August 8, 2007 predict a 59% increase in the cost of Powder River Basin coal between 2007 and 2009. It is unclear why Xcel did not consider this kind of information in its prediction of future coal prices. Also, Attachment 52 to the Answer Testimony of Leslie Glustrom in this 07A-447E Docket details the billions of dollars that will be needed to bring service up to reasonable levels on our railroad system, with the Powder River Basin being an area that is particularly difficult to improve service on. It is likely that any costs to upgrade railroad service will be passed on to shippers such as Xcel which move large volumes of coal on the railroad lines. As noted in Attachment 21 to this Supplemental and Cross Answer Testimony disruptions in rail service from the Powder River Basin to Xcel's Colorado coal plants cost ratepayers over \$48 million in costs for replacement fuel. Any future disruptions over these high volume routes out of the Powder River Basin could add further costs to Xcel's Colorado ratepayers.

Unfortunately both the cost of coal and its freight are passed through to ratepayers under the Electric Commodity Adjustment mechanism as approved in Decision C06-1379 in Docket 06A-234 EG at the Colorado PUC.

Table 3 below shows that very little of Xcel's coal and freight are under contract from the year 2010 out. Attachment 7 to this Supplemental and Cross Answer testimony indicates that as of May 19, 2008 there weren't any updates to the information in Table 3 below.

LWG Supplemental/Cross Answer Table 3
Xcel's Coal and Transportation Under Contract for Colorado 2008-2015
(Data from Attachment 33 to the Answer Testimony of Leslie Glustrom Docket 07A-447E)

LWG1-6

Percentage under Contract

	2008	2009	2010	2011	2012	2013	2014	2015
Coal	101%	86%	29%	18%	6%	2%	2%	1%
Transportation	100%	43%	33%	31%	19%	19%	19%	19%

4) Fuel Costs for Xcel's Coal Plants Have Shown Large Increases Between 2005 and 2007: Attachment 37 to the Answer Testimony of Leslie Glustrom in this 07A-447E Docket shows significant increases in fuel costs¹¹ for Xcel's Colorado coal plants between 2005, when long term contracts began expiring and 2007. These increases are summarized in Table 4 below.

LWG Supplemental/Cross Answer Table 4
Fuel Costs for Xcel's Colorado Coal Plants 2005 and 2007
(Data from Attachment 37 to the Answer Testimony of Leslie Glustrom Docket 07A-447E)

PSCo Coal Plant	Fuel Costs 2005	Fuel Costs 2007	Percent Change 2005-2007
Arapahoe	\$13.06 million	\$20.50 million	57.0% Increase
Cameo	\$9.73 million	\$11.16 million	14.7% Increase
Cherokee	\$66.67 million	\$84.54 million	26.8% Increase
Comanche	\$36.96 million	\$53.18 million	43.9% Increase
Pawnee	\$31.66 million	\$42.47 million	34.1% Increase
Hayden (PSCo Share)	\$19.58million	\$34.96 million	78.6% Increase
Valmont	\$22.34 million	\$26.16 million	17.1% Increase

¹¹ The costs shown in Attachment 37 are designated as "Fuel Costs." It is not known what percentage, if any of these costs are for natural gas but it is likely that most of these costs are for coal. Also, these fuel cost increases do not account for outages and the impact of these outages on the number of MWh generated at a plant. They do, however, give a feel for what is happening to fuel costs in the real world.

5) Coal Costs per MMBTU Have Shown Significant Increases for All of Xcel's Colorado Coal Plants: Attachment 42 to the Answer Testimony of Leslie Glustrom in this 07A-447E Docket shows significant increases in the cost per MMBTU for Xcel's coal plants in Colorado. These increases are summarized in Table 5 below.

LWG Supplemental/Cross Answer Table 5
Coal Cost Per MMBTU for Xcel's Colorado Coal Plants 2005 and 2007
 (Data from Attachment 42 to the Answer Testimony of Leslie Glustrom Docket 07A-447E)

PSCo Coal Plant	Coal Cost 2005 Cents/MMBTU	Coal Cost 2007 Cents/MMBTU	Percent Change 2005-2007
Arapahoe	101.77 cents/MMBTU	137.3 cents/MMBTU	34.9% Increase
Cameo	131.24 cents/MMBTU	162.98 cents/MMBTU	24.2% Increase
Cherokee	106.63 cents/MMBTU	141.76 cents/MMBTU	32.94% Increase
Comanche	76.64 cents/MMBTU	105.15 cents/MMBTU	37.20% Increase
Hayden	101.87 cents/MMBTU	156.71 cents/MMBTU	53.83% Increase
Pawnee	97.69 cents/MMBTU	101.53 cents/MMBTU	3.93% Increase
Valmont	149.81 cents/MMBTU	178.42 cents/MMBTU	19.10% Increase

Where Xcel has assumed that coal costs would increase at 2.33% past 2030,¹² the smallest percentage increase between 2005 and 2007 was a 3.93% increase at the Pawnee coal plant. All other increases for the two year period ranged from 19.10% to 53.83% on a per MMBTU basis.

Q: WHAT RECOMMENDATIONS DO YOU HAVE FOR THE COMMISSION WITH RESPECT TO THE PRICE OF COAL TO BE USED BY XCEL IN THIS AND OTHER RELATED DOCKETS?

¹² See page 1-55, Volume 1, PSCo 2007Colorado Resource Plan Docket 07A-447E

A: Attachment 3 to this Supplemental and Cross Answer testimony indicates that Xcel will be spending about \$300 million per year on coal costs during the period covered by this plan. Our bill inserts indicate that over 60% of Xcel's electricity comes from coal. It is critical that the Commission ensure a more realistic estimate of future coal prices as Xcel moves forward in this and other Dockets.

At a time when all fossil fuel prices seem to defy efforts at future projection, it would be useful for the Commission to do the following:

- Recognize that coal is no longer a "cheap and abundant" fuel source
- Require Xcel to use a much larger percentage increase in the cost of coal
- Require that Xcel run sensitivity analyses for the price of coal in this and related Dockets (e.g. when calculating the Retail Rate Impact for the acquisition of renewable energy resources.)
- Move to stabilize rates by accelerating the movement to non-fossil fuel forms of generation, as suggested by C.R.S. § 40-2-123 (1) and (3) (b).

Q: WHAT INFORMATION DO YOU HAVE FOR THE COMMISSION TO CONSIDER ON GEOLOGIC CONSTRAINTS ON COAL RESOURCES AND THEIR LIKELY IMPACT ON FUTURE COAL COSTS?

A: In a report prepared last year, the National Research Council of the National Academy of Sciences had this to say about future coal supplies:

The conditions that will be encountered in future coal mines will undoubtedly be different from those of today—the more easily mined coal has already been extracted. As shallower coal is depleted and seams with greater amounts of overburden are mined, surface mining will become more expensive because stripping ratios will increase and multiple benches will be needed. This will increase the number of unit operations and the associated cost. (Page 66, Coal

Research and Development to Support National Energy Policy, National Academy Press, 2007--Available from www.nap.edu with the direct link being http://books.nap.edu/catalog.php?record_id=11977.)

The increasing overburden issue is particularly important in the Powder River Basin of Wyoming where approximately 40% of the country's coal comes from.¹³ Two Powder River Basin mines in particular—the Eagle Butte and the Belle Ayr—supply all of the coal to Xcel's Pawnee plant in Brush, Colorado and Comanche plants in Pueblo, Colorado respectively.¹⁴

As the Eagle Butte mine in Wyoming's Powder River Basin expands in the next 10 years or so, the overburden is expected to increase from about 200 feet to about 325 feet.¹⁵ If the price of diesel and electricity was to stay constant, this increase in the amount of overburden that has to be moved (and then moved back for mine reclamation) would be expected to significantly increase production costs. With the price of diesel fuel and electricity mounting dramatically, the increases in production costs for Powder River Basin coal are likely to compounded even more.

Attachment 2 to this Supplemental and Cross Answer testimony gives notice of an expected Environmental Impact Statement on a possible expansion for the Belle Ayr mine which provides the coal to the Comanche units in Pueblo. The expansion is expected to add about 8 years to the Belle Ayr mine.¹⁶ When the EIS is issued, the Commission should be able to determine the future increase in overburden in the Belle

¹³ See Attachments 26 and 28 to the Answer Testimony of Leslie Glustrom in this Docket 07A-447E.

¹⁴ See Attachment 32 to the Answer Testimony of Leslie Glustrom in this Docket 07A-447E.

¹⁵ See p.3-8 in Attachment 29 to the Answer Testimony of Leslie Glustrom in Docket 07A-447E.

¹⁶ Attachment 20 is taken from the Foundation Coal website in 2007. It indicates that the Belle Ayr mine was expected to have enough reserves to operate for about another 13 years. The Draft EIS on the South Gillette area coal leasing application is expected out later this summer. It should provide more information on the expected

Ayr mine and use this in its consideration of possible future coal prices for what will then be Xcel's largest set of coal plants.

In general, as shown in the Figures on pages 25 and 33 of the Inventory of Assessed Federal Coal Resources in Attachment 28 to the Answer Testimony of Leslie Glustrom in this 07A-447E Docket, as the mines of the Powder River Basin expand from east to west they are moving down the "sides of the bowl" of the Powder River Basin and the amount of overburden increases. With fuel prices constant, increasing overburden can be expected to lead to increasing production costs for coal. If the prices of diesel fuel and electricity increase (as they are doing quite dramatically now), then these cost increases can be expected to compound the increases in production costs for coal. In short, coal should no longer be assumed to be "cheap and abundant." Indeed, as a solid it poses particularly difficult extraction issues and prices can be expected to generally mount in the coming years—at least until we have transitioned off of coal and its value drops to close to zero (just as the value of a typewriter—even an excellent one—is now close to zero because typewriters have been replaced by computers).

III. COAL PLANT RETIREMENTS ARE STRONGLY SUPPORTED BY ECONOMIC, ENVIRONMENTAL AND ETHICAL ARGUMENTS¹⁷

Q: PLEASE SUMMARIZE THE ECONOMIC ARGUMENTS FOR COAL PLANT RETIREMENTS.

A: As described above, coal is no longer cheap and abundant and Xcel is experiencing large increases in fuel costs for its coal plants and the lack of long term contracts means

¹⁷ This section is included as Cross Answer testimony for witnesses opposing coal plant retirements. This includes Office of Consumer Counsel witness Schechter and Intermountain Rural Electric Association witness Blake.

that ratepayers are vulnerable to the probable increases in coal costs that can be expected in the coming years and decades.

Moreover, as described below, there are large operating costs associated with Xcel's coal plants. When ratepayers dollars are used to pay these costs for fueling, maintaining, and managing emissions from coal plants, then ratepayer dollars are not being used to build the generation sources and infrastructure that will drive the economy in the 21st century. As discussed further below, we don't live in a world where the only choices are coal and natural gas. We now have excellent means to generate electricity with renewable energy including wind, photovoltaic and concentrating solar thermal electric power. All of these forms of energy will provide the framework for power generation in the 21st century and will do so with minimal pollution and no fuel costs. Rather than spending money "feeding and diapering" coal plants, Xcel should be spending its ratepayers dollars building the generation sources and infrastructure for the 21st century. This point was made repeatedly during the public hearing in this Docket on April 14, 2008.

Q: PLEASE DESCRIBE THE OPERATING COSTS FOR COAL PLANTS THAT YOU HAVE MENTIONED.

A: Some of the operating costs for coal plants on Xcel's system in Colorado are presented in Attachment 37 to the Answer Testimony of Leslie Glustrom in this 07A-447E Docket. Some of these operating costs are summarized in Table 6 below.

**LWG Supplemental/Cross Answer Table 6
Key Operating Costs for Xcel's Coal Plants 2007**

(Data from Attachment 37 to the Answer Testimony of Leslie Glustrom in Docket 07A-447E.)

Costs (mostly) rounded to the nearest \$0.1 Million ("M")

2007 Costs ¹⁸	Arapahoe	Cameo	Cherokee	Comanche	Pawnee	Hayden ¹⁹	Valmont
Labor	\$8.3 M	\$4.2 M	\$19.4 M	\$14.9 M	\$11.8 M	\$5.9 M	\$6.9 M
Fuel	\$20.5M	\$11.2 M	\$84.5 M	\$53.2 M	\$42.5 M	\$35.0 M	\$26.2 M
Water	\$0.2 M	\$0.1 M	\$1.8 M	\$2.9 M	\$0.7 M	\$0.03 M	\$ 0.06 M
Maintenance	\$2.8 M	\$0.9 M	\$8.4 M	\$6.7 M	\$3.2 M	\$2.3 M	\$1.6 M
Ash Disposal	\$0.9 M	\$0.7 M	\$7.0 M	\$0.0 M ²⁰	\$0.03 M	-	\$0.4 M
SO2 Emissions	\$0.8 M	-	\$4.8 M	-	-	\$1.4 M	\$0.7 M
Sub-total ²¹	\$33.5 M	\$17.1 M	\$125.9 M	\$77.7 M	\$58.23 M	\$44.63 M	\$35.86 M

As can be seen from Table 6, operating costs for Xcel's Colorado coal plants are non-trivial. These costs are dominated by the fuel costs and as described in Tables 1-5, there is good reason to believe that coal costs will be escalating. In Xcel's analysis of coal plant retirements they only considered the possibility of replacing coal plants with natural gas plants and did not consider the possibility of replacing coal plants with Concentrating Solar Power (or a combination of CSP, wind, geothermal etc.). The failure to consider the option of replacing coal plants with CSP is seen in Attachment 4 to this Supplemental and Cross Answer Testimony of Leslie Glustrom. By only considering replacement of coal plants with natural gas plants, Xcel's analysis by needs contains very large costs for natural gas to replace the many MWh typically generated by coal plants.

¹⁸ Costs from Attachment 37 to the Answer Testimony of Leslie Glustrom in this 07A-447E Docket. Costs rounded to the nearest \$ 0.1 million.

¹⁹ Costs are presented in Attachment 37 to the Answer Testimony of Leslie Glustrom in this 07A-447E Docket as those for the "PSCo Share of the Hayden Plant."

²⁰ Attachment 39 to the Answer Testimony of Leslie Glustrom in this 07A-447E Docket provides more information on ash management costs. Comanche has been "utilizing" 100% of the ash and expects to move to onsite disposal after Unit 3 comes on line. It is not clear why there are no costs whatsoever for ash disposal. Perhaps they are all consumed in labor costs. Some ash handling costs begin to appear in 2008 for the Comanche Plant. (See Attachment 39 to the Answer Testimony of Leslie Glustrom in this 07A-447E Docket.)

²¹ These may not be the full operating costs. They are just the costs that I asked about. While I asked for total Annual Operating Costs, it is not clear whether these were provided by Xcel.

They also missed the opportunity to analyze the possibility of using Concentrating Solar Power and avoiding future fuel and carbon charges completely. A full analysis of replacing coal plants with CSP needs to be done, but a quick look at the numbers above indicates that ratepayers could easily be well served by a consideration of the possibility of replacing coal plants with CSP facilities.

For example, in the case of the Cherokee plant, if there are no increases in fuel costs, no upgrades needed and no CO2 costs, the operating costs for the next decade can still be assumed to be approximately \$1.3 billion (multiplying the \$125.9 million in 2007 operating costs from Table 6 times 10). Assuming CSP costs are approximately \$4 million per MW (which is higher than \$2.5 million per MW assumed by Xcel in Table 1.7-1 on page 1-55 of the 2007 Colorado Resource Plan—but I will use the \$4 million per MW to be conservative) then the 1.3 billion that (at the very least would be spent keeping Cherokee operating for the next decade) could build a 325 MW CSP plant—using “back of the envelope” calculations. Now, assuming that coal costs will increase, that the capital upgrades listed in Table 6 take place and that CO2 charges are instituted, then the calculation becomes even more interesting—and certainly should have been done by Xcel.

Q: PLEASE SUMMARIZE THE INFORMATION AVAILABLE ON CAPITAL EXPENDITURES NEEDED AT XCEL'S COLORADO COAL PLANTS BETWEEN 2009 AND 2013.

A: Looking at the planned capital costs to be incurred over the next 5 years for Xcel's Colorado coal plants, the costs needed to keep these aging coal plants operating mount even higher. The planned capital costs for Xcel's Colorado coal plants shown below in

Table 7 are taken from Attachment 46 to the Answer Testimony of Leslie Glustrom in Docket 07A-447E. I have only included the Cherokee, Pawnee and Valmont coal plants because the costs for Cameo and Arapahoe include the planned decommissioning costs, the costs for Comanche include some of the Unit 3 costs and it is unclear how much of the costs for the Hayden plant will be borne by Xcel's Colorado ratepayers.

LWG Supplemental/Cross Answer Table 7
Planned Capital Expenditures for Some of Xcel's Colorado Coal Plants 2009-2013
 (Data from Attachment 46 to the Answer Testimony of Leslie Glustrom in Docket 07A-447E)

Numbers rounded to the nearest \$0.1 Million ("M")

	Cherokee	Pawnee ²²	Valmont
2009-2013 Capital Expenditures	\$89.9 M	\$150.7 M	\$26.8 M

Q: PLEASE ADD A CONSERVATIVE ESTIMATE FOR CO2 CHARGES TO THIS ANALYSIS.

A: Next we can consider some possible CO2 charges for Xcel's Colorado coal plants.

Table 8 summarizes some possible charges assuming that CO2 management costs begin in 2013 and are \$20 per ton, with no escalation. Estimates for the amount of CO2 emitted come from Colorado's Inventory of Greenhouse Gas Emissions which is Attachment 24 to the Answer Testimony of Leslie Glustrom in this 07A-447E Docket.

²² Capital Expenditures for Pawnee in Attachment 46 to the Answer Testimony of Leslie Glustrom in this 07A-447E Docket include approximately \$323.76 million for Pawnee Unit 2. It is unclear what Xcel's intentions are with respect to this "Pawnee Unit 2" so I have left it out of the total capital expenditures for 2009-2013 for the Pawnee plant. The point of Table 7 is to highlight the large capital expenditures that are pending for Xcel's Colorado coal plants.

LWG Supplemental/Cross Answer Table 8
Potential CO2 Charges for Some of Xcel's Colorado Coal Plants 2013-2018²³
(Data on CO2 Emissions estimated from Attachment 24 to the Answer Testimony of Leslie Glustrom in Docket 07A-447E)

CO2 Emissions as Million Metric Tons ("MMT"); Costs in Millions ("M")

	Cherokee	Comanche ²⁴	Pawnee	Valmont
Approx. Annual CO2 Emissions	5 MMT	4.8 MMT	4 MMT	1.3 MMT
CO2 Costs 2013-2018 Assuming \$20/ton	\$500 M	\$480 M	\$400 M	\$130 M

Putting this "back of the envelope" calculation together for the Cherokee Plant, these costs for the next decade are summarized in Table 9.

LWG Supplemental/Cross Answer Table 9
Conservatively Estimated Costs for the Cherokee Coal Plant 2008-2018
(Data from Tables 6-8 of this Supplemental and Cross Answer Testimony of Leslie Glustrom)

	Xcel's 717 MW Cherokee Coal Plant in Denver
Operating Costs 2008-2018 ²⁵	\$1259 Million
Capital Costs 2008-2013 ²⁶	\$89.9 Million
Possible CO2 Costs 2013-2018 ²⁷	\$500 Million
TOTAL	\$1879.9 Million = \$1.8 Billion

²³ CO2 charges are estimated by taking the number of million metric tons of CO2 emitted (See page A-5 in Attachment 24 to the Answer Testimony of Leslie Glustrom in Docket 07A-447E) and multiplied by an assumed \$20 per ton for five years from 2013-2018. It is unknown at this time when carbon charges will be instituted, how much they will be or how fast the costs will escalate. This is just intended to illustrate the magnitude of charges that are likely to accompany the future operation of some of Xcel's Colorado coal plants. Valmont CO2 emissions were estimated from Discovery Request CPUC 6-189 which is not attached.

²⁴ Comanche CO2 estimates are only for the existing Units 1 and 2. Unit 3 is expected to emit about 4.38 million metric tons of CO2. See page A-8 in Attachment 24 to the Answer Testimony of Leslie Glustrom in Docket 07A-447E.

²⁵ Operating Costs are taken from Table 6 and multiplied by 10—assuming no increases in Annual Operating Costs or Fuel for the next 10 years—clearly a very conservative assumption.

²⁶ It is unknown what capital expenditures would be needed at the Cherokee plant between 2013-2018, but given the advanced age of the Cherokee plants and increased regulation of mercury and fly ash etc., it is very probable that there will be significant capital costs associated with keeping Cherokee open during this period.

²⁷ CO2 Costs were estimated assuming \$20 per ton CO2 charges beginning in 2013 with no escalation for the next 5 years. Once again, this is probably a conservative assumption, but only time will tell.

Using the very conservative assumptions used to prepare Table 9, it is apparent that keeping Cherokee operating for the next 10 years is likely to cost ratepayers \$1.8 billion dollars—and probably a lot more.

When Xcel compared the retirement of Cherokee to replacement with a natural gas plant they had to assume that the electricity produced by Cherokee would be replaced by natural gas—which means that the operating costs of Cherokee were masked by the high costs of natural gas.

It is also clear that the Office of Consumer Counsel failed to consider either the issue of the rising costs of coal or the ability of Concentrating Solar Power Plants to displace coal plants as shown in the Answers of OCC witness to the Discovery Requests contained in Attachment 10 to this Supplemental and Cross Answer Testimony of Leslie Glustrom.

The better comparison would be to compare the retirement of Cherokee to the building of Concentrating Solar Power (“CSP”) plants. Again, assuming a rather conservative \$4 million per MW to construct a CSP plant, the (very conservative estimate of) \$1.8 billion used to operate Cherokee over the next decade could (in this rough calculation) be used to construct a 450 MW CSP plant. With increased estimates for fuel, maintenance, ash disposal, capital expenditures beyond 2013 and CO2 costs larger than those assumed, the calculation will become even more favorable to the possibility of investing in CSP plants.

By spending ratepayer dollars building CSP plants Xcel can begin to make the investments in the carbon free, fuel free generating plants that are the technology of this century—instead of spending money just maintaining (or as some people say “feeding

and diapering”) the coal plants of the last century. Also, this calculation doesn't include anything for the legal risk that is increasingly accompanying the operation of coal plants with Xcel already the target of several law suits or Notices of Intent related to CO2 emissions and other pollutants from coal plants.

Clearly, a more sophisticated analysis is needed, but the point is that by failing to consider the possibility of replacing coal plants with Concentrating Solar Power plants, Xcel has failed to conduct a thoughtful analysis of how to spend ratepayer dollars over the next decade. The Commission should remedy this by requiring an RFP for Concentrating Solar Power plants at the earliest possible time and a full accounting of all operating and capital costs needed to keep Xcel's aging coal plants running.

Q: PLEASE SUMMARIZE THE ENVIRONMENTAL ARGUMENTS FOR RETIRING COAL PLANTS.

A: The environmental arguments for retiring coal plants were well covered in Answer Testimony in this Docket including in the Answer testimony of Dr. Calonge testifying for the Colorado Department of Public Health and the Environment, Drs. Trenberth, Tans, Serreze and Hoerling testifying for Western Resource Advocates and in my Answer testimony—all submitted on April 28, 2008 in this 07A-447E Docket. In short, the climate scientists have made it clear that the warming of the planet is unequivocal, the consequences predicted by the IPCC are extremely dire and the melting of the Arctic Sea Ice three decades earlier than the most IPCC model predicted mean that the consequences are likely to be much more dire than even the IPCC predicted and as summarized in the testimony of Drs. Trenberth, Tans, Serreze and Hoerling. These are four of the world top climate change scientists and they make it absolutely clear that though we've had a cold

winter and rainy and cool spring in Colorado, we should not become complacent in the face of this short term variability. The science is clear and the consequences are extremely serious. If we want to have a planet that resembles the one we have known, we must bring our emissions of greenhouse gases close to zero. See also Attachments 1-21 of my Answer Testimony in this 07A-447E Docket.

Q. PLEASE SUMMARIZE THE ETHICAL ARGUMENTS FOR RETIRING COAL PLANTS.

A: I don't have any formal training in ethics, but regardless of what spiritual, religious or ethical framework is considered, there is the Golden Rule that reminds us to do unto others what we would have them do unto us. If we were suffering the consequences of the typhoon in Myanmar or the tornadoes that have wracked this country this spring or were victims of the increased fires, certainly we would ask that the people who are adding CO2 to the atmosphere and increasing the amount of extreme weather do everything in their power to stop emitting these gases. Attachment 22 to this Supplemental and Cross Answer testimony is a poignant story about the Pacific Island nation of Kiribati which is expected to be uninhabitable as sea level rises and the entire nation is making plans to leave its island paradise—and certainly they have emitted essentially no greenhouse gases. It is imperative that we do everything we possibly can to drastically reduce greenhouse gases if we have any intergenerational, cross-cultural or cross-species ethical sensibilities.

III. THE DEMAND ON XCEL'S SYSTEM EXPERIENCED LESS THAN 10% OF THE TIME IS INCREASING RAPIDLY—IT SHOULD RECEIVE SPECIAL ATTENTION²⁸

Q: PLEASE DESCRIBE THE CONCERN ABOUT XCEL'S PEAK DEMAND GROWING FASTER THAN THE REST OF ITS LOAD.

A: The analysis of Xcel's load duration curves for the last 10 years is included in Attachment 13 to this Supplemental and Cross Answer Testimony. The first graph in Attachment 13 makes it clear that the load that Xcel experiences less than 10% of the time is growing faster than the rest of its load. Table 10 below summarizes the information on the relative growth rates of various parts of Xcel's load.

**LWG Supplemental/Cross Answer Table 10
Relative Growth Rates for Various Parts of Xcel's Load**

(Data from Attachments 12 and 13 of this Supplemental and Cross Answer Testimony of Leslie Glustrom Docket 07A-447E)

	Load in 1997	Load in 2006	Difference 1997-2006
Load Experienced 90% of the Time	2249 MW	3097 MW	848 MW
Load Experienced 50% of the Time	3095 MW	4104 MW	1009 MW
Load Experienced 10% of the Time	3739 MW	4967 MW	1228 MW
Peak Load	4487 MW	6656 MW	2169 MW

From the differences between the 1997 load and the 2006 load shown in Table 10 it can be seen that Xcel's peak load in Colorado is growing faster than the other parts of its load. As the planet warms, the Arctic ice melts (and eliminates a key source of cool air for breaking summer heat waves) and the permafrost begins releasing large amounts of carbon, it will become increasingly important for Xcel, the PUC and all the parties to

²⁸ This section on the nature of Xcel's load is offered as cross answer testimony to the testimony of PUC staff witness Bill Harris. It is offered in the hopes of generating a thoughtful discussion about the shape of Xcel's load curves and how the load experienced less than 10% of the time is growing faster than the rest of Xcel's load.

these proceedings to focus on low cost, low carbon ways of managing the quickly growing summer peak.

IV. HOUSE BILL 08-1164 HAS BEEN SIGNED BY THE GOVERNOR; CONCENTRATING SOLAR TECHNOLOGIES ARE BEING ADOPTED BY OTHER UTILITIES AND XCEL SHOULD ACCELERATE ITS EFFORTS TO ADOPT THIS CARBON FEE FORM OF MEETING THE SUMMER PEAK DEMAND²⁹

Q: YOU SUMMARIZED HOUSE BILL 08-1164 IN THE INTRODUCTION. NOW PLEASE SUMMARIZE THE INFORMATION ON OTHER UTILITIES THAT ARE ADOPTING CONCENTRATING SOLAR POWER.

A: Attachments 15-19 to this Supplemental and Cross Answer Testimony provide examples of the kinds of Concentrating Solar Power agreements being signed by other utilities in the southwest. These include:

- **July 2007**
Solel and PG&E 553 Mw of Parabolic Trough CSP Plants
Attachment 15
- **November 2007**
Ausra and PG&E 177 MW of CLFR (Linear Fresnel Lens) CSP Plant
Attachment 16
- **February 2008**
Abengoa and APS 280 MW of Parabolic Trough CSP Plant
Attachment 17
- **April 2008**
BrightSource -PG&E 500-900 MW of Distributed Power Tower CSP Plants
Attachment 18
- **June 2008**
Esolar -SoCal Edison 245 MW of Modular Power Tower CSP Plants
Attachment 19

²⁹ This section on HB 08-1164 and Concentrating Solar Power in response to Commission Decision C08-0538 paragraph 6, asking for information on the implications of HB 08-1164.

Clearly the CSP developers are ready to sign serious contracts. Colorado has the potential for over 200 GW of CSP (See p. 64 in “Connecting Colorado’s Renewable Resources to the Markets,” issued by Governor Ritter’s Energy Office in December 2007.)

The Legislature has spoken. The Governor has signed HB 08-1164. The CSP developers are ready to sign contracts. Colorado has great CSP potential. All that is required is for Xcel to issue a well constructed and administered RFP for CSP resources.

V. COMMUNITIES SERVED BY XCEL WANT TO EXCEED THE 20% BY 2020 RENEWABLE ENERGY STANDARD; THE COMMISSION SHOULD ANTICIPATE AND FACILITATE THESE EFFORTS

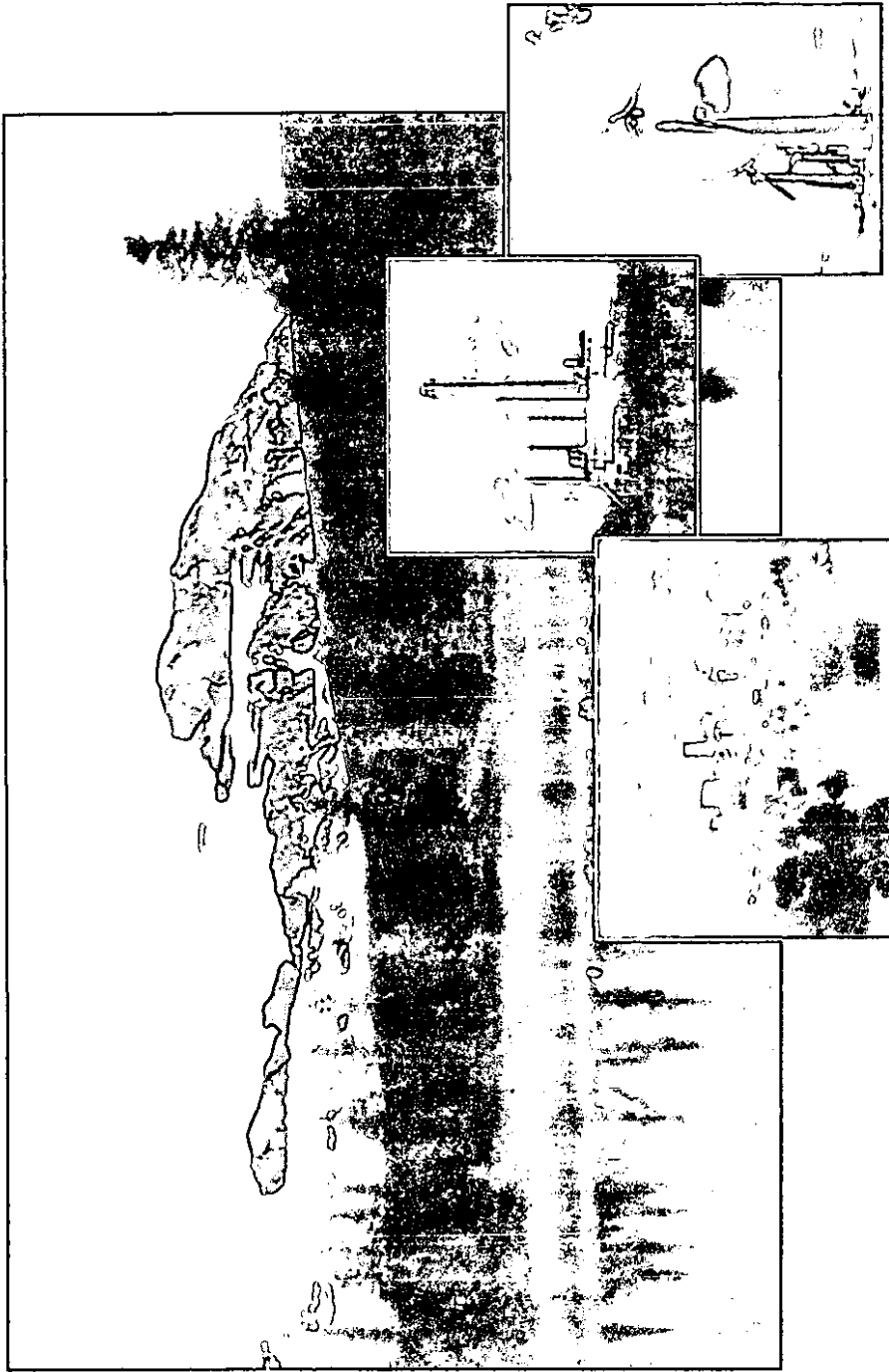
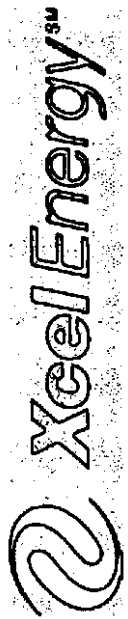
Q: WHAT CAN YOU TELL US ABOUT COMMUNITIES THAT WANT TO EXCEED THE STATE’S 20% BY 2020 RENEWABLE ENERGY STANDARD?

A: Attachment 23 is Resolution 1793 from the City of Golden. Among other things it states the City’s desire to obtain 50% of its electricity from renewable resources in 10 years. Other communities such as Boulder are also discussing possible ways to rapidly decarbonize its supply of electricity. Other communities are likely to follow in step. The PUC should ensure that Xcel recognizes, anticipates and works to meet these desires for low carbon electricity. Colorado has abundant potential. All it takes now is determination on the part of the decision makers to help us make the transition from our fossil fuel dominated system (with its rapidly increasing costs) to a low carbon system that will help clear the air, improve the state’s economy and stabilize electric rates. It is an exciting time if we will just have the courage to move to the technologies of this century

rather than spending ratepayer dollars supporting the fossil fuel technologies of the last century.

Q: DOES THIS CONCLUDE YOUR SUPPLEMENTAL AND CROSS ANSWER TESTIMONY?

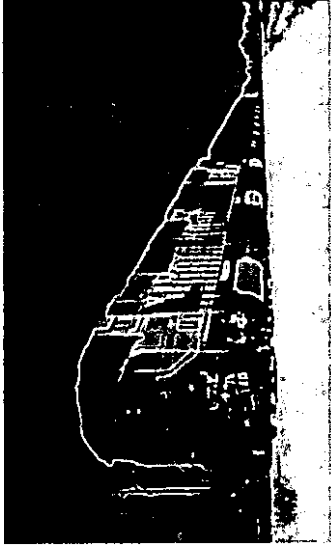
A: Yes.



Xcel Energy Inc.
800 Nicollet Mall
Minneapolis, Minnesota 55402
www.xcelenergy.com

Midwest Investor Meetings
May 31 – June 1, 2005

Coal Supply Contracted



	<u>Coal</u>	<u>Coal Transportation</u>
2005	99%	100%
2006	78	75
2007	65	45
2008	46	45

Annual consumption: 32 Million tons of low-sulfur, low-mercury western coal

Reduction Act. The Department is soliciting public comments on the subject proposal.

DATES: *Comments Due Date:* May 29, 2007.

ADDRESSES: Interested persons are invited to submit comments regarding this proposal. Comments should refer to the proposal by name and/or OMB Control Number and should be sent to: Lillian Deitzer, Departmental Reports Management Officer, Department of Housing and Urban Development, 451 7th Street, SW., Room 4781, Washington, DC 20410.

FOR FURTHER INFORMATION CONTACT: James A. Beavers, Acting Director, Office of Single Family Program Development, Department of Housing and Urban Development, 451 7th Street, SW., Washington, DC 20410, telephone (202) 708-2121 (this is not a toll free number) for copies of the proposed forms and other available information. **SUPPLEMENTARY INFORMATION:** The Department is submitting the proposed information collection to OMB for review, as required by the Paperwork Reduction Act of 1995 (44 U.S.C. Chapter 35, as amended).

This Notice is soliciting comments from members of the public and affected agencies concerning the proposed collection of information to: (1) Evaluate whether the proposed collection is necessary for the proper performance of the functions of the agency, including whether the information will have practical utility; (2) Evaluate the accuracy of the agency's estimate of the burden of the proposed collection of information; (3) Enhance the quality, utility, and clarity of the information to be collected; and (4) Minimize the burden of the collection of information on those who are to respond; including the use of appropriate automated collection techniques or other forms of information technology, e.g., permitting electronic submission of responses.

This Notice also lists the following information:

Title of Proposal: Disclosure of Adjustable Rate Mortgages (ARMS) Rates.

OMB Control Number, if applicable: 2502-0322.

Description of the need for the information and proposed use: The Housing and Urban-Rural Recovery Act of 1983 amended the National Housing Act to permit FHA to insure adjustable rate mortgages (ARMS). On March 10, 2004, the Department of Housing and Urban Development published a final rule in the **Federal Register** amending the mortgage insurance regulations to implement additional product offerings

known as "hybrid" adjustable rate mortgages. The Federal Housing Administration (FHA) has insured ARMS since 1984; however, these were limited to 1-year ARMS. FHA is now offering mortgage insurance on 3-year, 5-year, 7-year and 10-year ARMS. The terms of all ARMS insured by HUD-FHA are required to be fully disclosed as part of the loan approval process. Additionally, an annual disclosure is required to reflect the adjustment to the interest rate and monthly mortgage amount. Lenders must electronically indicate that the mortgage to be insured is an ARM and the term or type of the ARM.

Agency form numbers, if applicable: None.

Estimation of the total numbers of hours needed to prepare the information collection including number of respondents, frequency of response, and hours of response: The estimated number of respondents is 20,000, frequency of response is annually, the total annual responses are 220,000, time per response is estimated at three minutes and the estimated annual burden hours requested is 11,000.

Status of the proposed information collection: Extension of a currently approved collection.

Authority: The Paperwork Reduction Act of 1995, 44 U.S.C., Chapter 35, as amended.

Dated: March 23, 2007.

Frank L. Davis,

General Deputy Assistant Secretary for Housing-Deputy Federal Housing Commissioner.

[FR Doc. E7-5731 Filed 3-28-07; 8:45 am]

BILLING CODE 4210-67-P

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[WY-060-1320-EL, WYW161248, WYW172585, WYW172657, WYW173360]

Notice of Public Hearing, Notice of Intent To Begin Scoping, and To Prepare an Environmental Impact Statement

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice of Public Hearing, Notice of Intent (NOI) To Begin Scoping, and to Prepare an Environmental Impact Statement (EIS) on Four Federal Coal Lease Applications (LBA) in the Decertified Powder River Federal Coal Production Region, Wyoming.

SUMMARY: Pursuant to Section 102(2)(C) of the National Environmental Policy

Act (NEPA) of 1969, as amended, the Bureau of Land Management (BLM), Casper Field Office announces its intent to prepare one EIS titled "South Gillette Area Coal EIS" on the potential and cumulative impacts of leasing four tracts of Federal coal. Consistent with Federal regulations promulgated for the Minerals Leasing Act of 1920, as amended, 43 Code of Federal Regulations (CFR) 3425, the BLM must prepare an environmental analysis prior to holding a competitive Federal coal lease sale.

DATES: This notice initiates the scoping process. The BLM can best use public input if comments and resource information are submitted to the address below in the **ADDRESSES** section by June 1, 2007.

To provide the public with an opportunity to review the proposal and gain understanding of the coal leasing process, the BLM will host a meeting on April 11, 2007, at 7 p.m. at the Gillette College Presentation Hall, Room 120, 300 West Sinclair, Gillette, Wyoming. At the meeting, the public is invited to submit comments and resource information, plus identify issues or concerns to be considered in the coal leasing process. The BLM will announce future public meetings and other opportunities to submit comments on this project at least 15 days prior to the events. Announcements will be made through local news media and the Casper Field Office's Web site, which is: <http://www.wy.blm.gov/cfo/>.

ADDRESSES: Please submit written comments or concerns to the BLM Casper Field Office, Attn: Teresa Johnson, 2987 Prospector Drive, Casper, Wyoming 82604. Written comments or resource information may also be hand-delivered to the BLM Casper Field Office or sent by facsimile to the attention of Teresa Johnson at (307) 261-7510. Comments may be sent electronically to casper_wymail@blm.gov. Please put "South Gillette Area Coal EIS/Teresa Johnson" in the subject line.

Members of the public may examine documents pertinent to this proposal by visiting the Casper Field Office during its business hours (7:45 a.m. to 4:30 p.m.), Monday through Friday, except holidays.

FOR FURTHER INFORMATION CONTACT: Teresa Johnson or Mike Karbs, BLM Casper Field Office, 2987 Prospector Drive, Casper, Wyoming 82604. Ms Johnson or Mr. Karbs may also be reached at (307) 261-7600.

SUPPLEMENTARY INFORMATION: A maintenance tract is a parcel of land

containing Federal coal reserves that can be leased to maintain production at an existing mine. The BLM received four Federal coal LBAs for use as maintenance tracts in Campbell County, Wyoming.

On June 6, 2004, RAG Wyoming Land Company (RAG) applied for a maintenance coal lease tract of approximately 1,578.74 acres (approximately 200 million tons of in-place coal) adjacent to the Belle Ayr Mine. RAG subsequently sold the Belle Ayr Mine and its associated interests to Foundation Coal Holdings, Inc. (Foundation). From this point forward, the applicant for the Belle Ayr North Tract will be referred to as Foundation. The tract, which is referred to as the Belle Ayr North Tract, has been assigned case number WYW161248. The Belle Ayr North Tract includes the following lands in Campbell County, Wyoming:

- T. 48 N., R. 71 W., 6th PM, Wyoming
 Section 18: Lots 17, 18, 19 (W $\frac{1}{2}$, SE $\frac{1}{4}$);
 Section 19: Lots 5 through 19;
 Section 20: Lots 3 (SW $\frac{1}{4}$), 4 (W $\frac{1}{2}$, SE $\frac{1}{4}$),
 5, 6, 7 (S $\frac{1}{2}$), 9 (S $\frac{1}{2}$), 10 through 16;
 Section 21: Lots 13, 14;
 Section 28: Lots 3 through 6;
 Section 29: Lots 1, 6;
 T. 48 N., R. 72 W., 6th PM, Wyoming
 Section 24: Lots 1, 8.
 Containing 1,578.74 acres, more or less.

Foundation proposes to mine the tract as a part of the Belle Ayr Mine. At the 2006 mining rate of 24.6 million tons per year, the coal included in the Belle Ayr North Tract would extend the life of the Belle Ayr Mine by as many as 8 years.

On February 10, 2006, Ark Land Company (Ark) applied for a maintenance coal tract of approximately 1,151 acres (approximately 57 million tons of in-place coal) adjacent to the Coal Creek Mine. The tract, which is referred to as the West Coal Creek Tract, has been assigned case number WYW172585. The West Coal Creek Tract includes the following lands in Campbell County, Wyoming:

- T. 46 N., R. 70 W., 6th PM, Wyoming
 Section 18: Lots 14 through 17;
 Section 19: Lots 7 through 10, 15 through 18;
 Section 30: Lots 5 through 20.
 Containing 1,151.26 acres, more or less.

Ark's subsidiary, Thunder Basin Coal Company, proposes to mine the tract as a part of the Coal Creek Mine. At the 2006 mining rate of 4.2 million tons per year, the coal included in the West Coal Creek Tract would extend the life of the Coal Creek Mine by as many as 13 years.

On March 15, 2006, Caballo Coal Company (Caballo) applied for a

maintenance coal tract of approximately 777.485 acres (approximately 87.5 million tons of in-place coal) adjacent to the Caballo Mine. The tract, which is referred to as the Caballo West Tract, has been assigned case number WYW172585. The Caballo West Tract includes the following lands in Campbell County, Wyoming:

- T. 48 N., R. 71 W., 6th PM, Wyoming
 Section 7: Lots 12, 19;
 Section 8: Lot 10;
 Section 17: Lots 1 through 10, 11 (N $\frac{1}{2}$, SE $\frac{1}{4}$), 12 (NE $\frac{1}{4}$), 15 (N $\frac{1}{2}$, SE $\frac{1}{4}$), 16;
 Section 18: Lots 5, 12 (NE $\frac{1}{4}$);
 Section 20: Lots 1, 2 (NE $\frac{1}{4}$), 8 (N $\frac{1}{2}$ SE $\frac{1}{4}$).
 Containing 777.485 acres, more or less.

Caballo proposes to mine the tract as a part of the Caballo Mine. At the 2006 mining rate of 39 million tons per year, the coal included in the Caballo West Tract would extend the life of the Caballo Mine by as many as 2.2 years.

On September 1, 2006, Cordero Mining Company (Cordero) applied for a maintenance coal tract of approximately 4,653.80 acres (approximately 483 million tons of in-place coal) adjacent to the Cordero Rojo Mine. The tract, which is referred to as the Maysdorf II Tract, has been assigned case number WYW173360. The Maysdorf II Tract includes the following lands in Campbell County, Wyoming:

- T. 46 N., R. 71 W., 6th PM, Wyoming
 Section 4: Lots 8, 9, 16, 17;
 Section 5: Lots 5, 12, 13, 20;
 Section 9: Lots 6 through 8;
 Section 10: Lots 7 through 10;
 Section 11: Lots 13 through 16;
 T. 47 N., R. 71 W., 6th PM, Wyoming
 Section 7: Lots 6 through 11, 14 through 19;
 Section 17: Lots 1 through 15, SW $\frac{1}{4}$ NW $\frac{1}{4}$;
 Section 18: Lots 5 through 14, 19, 20;
 Section 20: Lots 1, 8, 9, 16;
 Section 21: Lots 4, 5, 12, 13;
 Section 28: Lots 4, 5, 12, 13;
 Section 29: Lots 1, 8, 9, 16;
 Section 32: Lots 1, 8, 9, 16;
 Section 33: Lots 4, 5, 12, 13;
 T. 47 N., R. 72 W., 6th PM, Wyoming
 Section 12: Lots 1 through 16;
 Section 13: Lots 1 through 8.
 Containing 4,653.80 acres, more or less.

Cordero proposes to mine the tract as a part of the Cordero Rojo Mine. At the 2006 mining rate of 39.7 million tons per year, the coal included in the Maysdorf II Tract would extend the life of the Cordero Rojo Mine by as many as 12 years.

Lands in the Belle Ayr North, West Coal Creek, and Caballo West Tracts contain private surface estate overlying the Federal coal. Lands in the Maysdorf II Tract contain private and Federal surface estate overlying the Federal coal. The Federal surface is administered by BLM.

The Belle Ayr Mine, Coal Creek Mine, Caballo Mine, and Cordero Rojo Mine are operating under approved mining permits from the Land Quality and Air Quality Divisions of the Wyoming Department of Environmental Quality.

The Powder River Regional Coal Team recommended that BLM process these four coal lease applications after they reviewed the Belle Ayr North Tract at a public meeting held on April 24, 2005, in Gillette, Wyoming, and the West Coal Creek, Caballo West, and Maysdorf II Tracts at a public meeting held on April 19, 2006, in Casper, Wyoming.

The Office of Surface Mining Reclamation and Enforcement (OSM) will be a cooperating agency in the preparation of the EIS. If the four tracts are leased to the applicants, the new leases must be incorporated into the existing mining and reclamation plans for the adjacent mines. Before the Federal coal in each tract can be mined, the Secretary of the Interior must approve the revised MLA mining plan for the mine in which each tract will be included. The OSM is the Federal agency that is responsible for recommending approval, approval with conditions, or disapproval of the revised MLA mining plan to the Office of the Secretary of the Interior. Other cooperating agencies may be identified during the scoping process.

The BLM will provide interested parties the opportunity to submit comments or relevant information or both. This information will help the BLM identify issues to be considered in preparing the South Gillette Area Coal EIS. Issues that have been identified in analyzing the impacts of previous Federal coal leasing actions in the Wyoming Powder River Basin (PRB) include the need for resolution of conflicts between existing and proposed oil and gas development and coal mining on the tracts proposed for coal leasing; potential impacts to big game herds and hunting; potential impacts to sage-grouse; potential impacts to listed Threatened and Endangered Species; potential health impacts related to blasting operations conducted by the mines to remove overburden and coal; the need to consider the cumulative impacts of coal leasing decisions combined with other existing and proposed development in the Wyoming PRB; and potential site-specific and cumulative impacts on air and water quality.

Your response is important and will be considered in the EIS process. If you do respond, we will keep you informed of the availability of environmental

documents that address impacts that might occur from this proposal.

Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Dated: February 21, 2007.

Donald A. Simpson,
Associate State Director.

[FR Doc. 07-1566 Filed 3-28-07; 8:45 am]

BILLING CODE 4310-22-P

INTERNATIONAL TRADE COMMISSION

Agency Form Submitted for OMB Review

AGENCY: United States International Trade Commission.

ACTION: In accordance with the provisions of the Paperwork Reduction Act of 1995 (44 U.S.C. Chapter 35), the Commission has submitted a request for emergency processing for review and clearance of questionnaires to the Office of Management and Budget (OMB). The Commission has requested OMB approval of this submission by COB April 16, 2007.

DATES: Effective Date: March 21, 2007.

Purpose of Information Collection: The forms are for use by the Commission in connection with investigation No. 332-480, Certain Textile Articles: Travel Goods of Textile Materials, instituted under section 332(g) of the Tariff Act of 1930 (19 U.S.C. 1332(g)) at the request of the House Committee on Ways and Means. The Commission expects to deliver its report to the Committee by October 25, 2007.

Summary of Proposal

(1) *Number of forms submitted:* two.

(2) *Title of form:* Questionnaire for U.S. Producers of Travel Goods with an Outer Surface of Textile Materials; Questionnaire for U.S. Producers of Textile Materials for Use in Travel Goods with an Outer Surface of Textile Materials.

(3) *Type of request:* New.

(4) *Frequency of use:* Single data gathering, scheduled for 2007.

(5) *Description of respondents:* U.S. firms that produce travel goods with an

outer surface of textile materials, and U.S. firms that produce textile materials for use in travel goods with an outer surface of textile materials.

(6) *Estimated number of respondents:* 127 (Producer travel goods questionnaire). 39 (Producer textile materials questionnaire).

(7) *Estimated total number of hours for all respondents to complete the forms:* 1074 hours.

(8) Information obtained from the form that qualifies as confidential business information will be so treated by the Commission and not disclosed in a manner that would reveal the individual operations of a firm.

Additional Information or Comment: Copies of the forms and supporting documents may be obtained from the Commission's Web site at http://www.usitc.gov/ind_econ_ana/research_ana/outerwear.htm, or from Kimberlie Freund, Co-Project Leader (202-708-5402; kimberlie.freund@usitc.gov) or Heidi Colby-Oizumi, Co-Project Leader, (202-205-3391; heidi.colby@usitc.gov), of the Office of Industries. Comments about the proposals should be directed to the Office of Management and Budget, Office of Information and Regulatory Affairs, Room 10102 (Docket Library), Washington, DC 20503, Attention: Docket Librarian. All comments should be specific, indicating which part of the questionnaire is objectionable, describing the concern in detail, and including specific suggested revisions or language changes. Copies of any comments should be provided to Robert Rogowsky, Director, Office of Operations, U.S. International Trade Commission, 500 E Street, SW., Washington, DC 20436, who is the Commission's designated Senior Official under the Paperwork Reduction Act.

Persons with mobility impairments who will need special assistance in gaining access to the Commission should contact the Secretary at 202-205-2000. Hearing impaired individuals are advised that information on this matter can be obtained by contacting our TTD terminal (telephone no. 202-205-1810). General information concerning the Commission may also be obtained by accessing its Internet server (<http://www.usitc.gov>).

By order of the Commission.

Issued: March 26, 2007.

Marilyn R. Abbott,

Secretary to the Commission.

[FR Doc. E7-5822 Filed 3-28-07; 8:45 am]

BILLING CODE 7020-02-P

DEPARTMENT OF JUSTICE

Notice of Lodging of Consent Decree Under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980

Notice is hereby given that on March 15, 2007 a proposed consent decree in *United States v. Charles E. Carlson, Front Range Royalties, Ltd., and Frontenac Mining, Ltd.*, Civil Action No. 06-cv-00275-WYD-MEH was lodged with the United States District Court for the District of Colorado.

In this action the United States brought claims under Sections 107 and 113(g) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 ("CERCLA"), as amended, 42 U.S.C. 9607 and 9613(g), seeking the recovery of costs incurred and to be incurred by the Environmental Protection Agency ("EPA") in response to releases or threatened releases of hazardous substances at and from the property owned by the Defendants within the Clear Creek Superfund Site, in Gilpin County, Colorado. The ability-to-pay consent decree resolves claims related to acidic drainage and metals loading into Clear Creek resulting from past mining operations on property owned by the defendants. The consent decree, among other things, provides EPA with access to and use of the defendants' property for remedial purposes and requires defendants to sell certain properties and to remit to EPA a percentage of the net sale proceeds up to the judgment amount of up to \$200,000.

The Department of Justice will receive for a period of thirty (30) days from the date of this publication comments relating to the consent decree. Comments should be addressed to the Assistant Attorney General, Environment and Natural Resources Division, and either e-mailed to pubcomment-ees.enrd@usdoj.gov or mailed to P.O. Box 7611, U.S. Department of Justice, Washington, DC 20044-7611, and should refer to *United States v. Charles E. Carlson, Front Range Royalties, Ltd., and Frontenac Mining, Ltd.*, Civil Action No. 06-cv-00275-WYD-MEH, D.J. Ref. 90-11-3-08439.

The consent decree may be examined at the U.S. Environmental Protection Agency, Region 8, 1595 Wynkoop Street, Denver, CO 80202-1129. During the public comment period, the consent decree, may also be examined on the following Department of Justice Web site, to <http://www.usdoj.gov/enrd/>

Re: In The Matter of the Application of) Third Set of Discovery Requests
Public Service Company of Colorado) Of Ms. Glustrom
For Approval of its 2007 Colorado) Served On Public Service Company
Resource Plan)
)
)
Docket No. 07A-447E) March 7, 2008

DISCOVERY REQUEST LWG3-8:

For each of the last 10 years and for each year of the planning period, please provide the following:

- a) Actual or estimated number of MWh produced with coal plants
- b) Actual or estimated number of MWh produced with natural gas plants
- c) Actual or estimated number of tons of coal used
- d) Actual or estimated cost of coal
- e) Actual or estimated number of MMBTUs of natural gas used
- f) Actual or estimated cost of natural gas

RESPONSE:

a-b) See Attachment LWG3-8ab.

c) See Attachment LWG3-8cd.

d) See Attachment LWG3-8cd.

e-f) See Attachment LWG3-8ef.

a-f) See Attachment LWG3-8a-f_future.xls for parts a through f for years beyond 2007.

Sponsor: a-b) Loa Jansen, c-d) Kathryn Valdez,
e-f) Tim Carter, a-f) Jim Hill – future

Response Date: March 21, 2008

REVISED RESPONSE:

See Revised Attachment LWG3-8ef; a typographical error was inadvertently made for the year 2006, which resulted in incorrect numbers.

Sponsor: Tim Carter

Response Date: May 19, 2008

**Docket 07A-447E
 Discovery Request LWG 3-8 E & F
 Public Service of Colorado
 Quantity & Cost of Natural Gas - PSCO Owned Plants
 1998-2007**

Year	Quantity of Natural Gas Used (Mcf)	Cost of Natural Gas
2007	36,180,960	\$ 156,899,592
2006	33,848,844	\$ 210,546,200
2005	32,898,746	\$ 248,391,880
2004	29,395,611	\$ 164,003,605
2003	32,175,816	\$ 143,138,911
2002	39,595,438	\$ 115,827,935
2001	38,972,598	\$ 168,101,894
2000	27,063,000	\$ 109,882,102
1999	16,402,866	\$ 42,775,102
1998	8,712,559	\$ 21,963,507

LWG_3-8	(\$000)	2008	2009	2010	2011	2012	2013
PSCo Owned Totals	Gas	97,903	114,825	96,402	97,143	94,374	137,688
	Coal	288,321	304,698	335,409	337,868	324,546	313,944

Attachment LWG3-8a-f_future

2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
158,835	149,839	155,178	167,293	179,370	194,413	209,480	228,677	181,099	184,911
317,352	324,837	326,478	331,392	338,256	343,071	349,245	355,916	336,859	332,866

2024	2025	2026	2027	2028	2029	2030	2031	2032
185,422	169,458	167,721	144,704	145,707	157,948	147,631	155,875	136,027
319,255	316,156	321,036	307,450	303,072	264,678	280,239	289,134	269,119

2033	2034	2035	2036	2037	2038	2039	2040	2041
147,637	155,503	176,449	195,936	174,605	171,614	191,573	205,175	198,478
239,239	250,760	214,879	210,591	206,290	174,789	162,024	169,235	102,956

2042	2043	2044	2045	2046
208,086	185,322	181,481	198,248	207,451
68,136	77,563	80,182	76,804	87,374

Re: In The Matter of the Application of)
Public Service Company of Colorado)
For Approval of its 2007 Colorado)
Resource Plan)
Docket No. 07A-447E)

Third Set of Discovery Requests
Of Ms. Glustrom
Served On Public Service Company

March 7, 2008

DISCOVERY REQUEST LWG3-16:

Please provide all qualitative and quantitative analyses done of the possibility of replacing retired coal plants with Concentrating Solar Power plants instead of natural gas plants.

RESPONSE:

The Company has not performed an analysis that specifically examines the various assumptions that would need to be made in order for new CSP technologies to replace retired coal-fired plants on the PSCo system.

Sponsor: Greg Ford and Jim Hill

Response Date: March 21, 2008

Re: In The Matter of the Application of	)	Third Set of Discovery Requests
Public Service Company of Colorado	)	Of Ms. Glustrom
For Approval of its 2007 Colorado	)	Served On Public Service Company
Resource Plan)	
)	
Docket No. 07A-447E	)	March 7, 2008

DISCOVERY REQUEST LWG3-18:

Please provide all qualitative and quantitative analyses done of the possibility of using Concentrating Solar Power plants to serve as fuel savers with respect to natural gas plants during the acquisition or planning periods as discussed on page 2-120 of the Colorado Resource Plan.

RESPONSE:

The Company is not aware of any analyses.

Sponsor: Greg Ford

Response Date: March 21, 2008

Re: In The Matter of the Application of Public Service Company of Colorado For Approval of its 2007 Colorado Resource Plan	) ) ) ) ) )	Sixth Set of Discovery Requests Of Ms. Glustrom Served On Public Service Company
Docket No. 07A-447E	)	April 28, 2008

DISCOVERY REQUEST LWG6-11:

Why did Valmont's coal ash costs go up so dramatically in 2007. (See LWG 3-3)

RESPONSE:

There was approximately a 51% increase in ash disposal fees from 2006 to 2007. The reason for this increase was a combination of higher ash tonnages (approximately 26%) due to the coal quality used at the plant and the competitive bid for contract ash management services in 2007 increasing unit disposal fees from \$4.21/ton in 2006 to \$5.07/ton in 2007.

Sponsor: Scott Thomas

Response Date: May 19, 2008

**Re: In The Matter of the Application of
Public Service Company of Colorado
For Approval of its 2007 Colorado
Resource Plan**

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**Sixth Set of Discovery Requests
Of Ms. Glustrom
Served On Public Service Company**

Docket No. 07A-447E

April 28, 2008

DISCOVERY REQUEST LWG6-16:

Please provide any updates to LWG 1-6 on the amount of coal under contract for future years.

RESPONSE:

There are no updates since LWG 1-6 was submitted.

Sponsor: Kathryn Valdez

Response Date: May 19, 2008

Re: In The Matter of the Application of	)	Sixth Set of Discovery Requests
Public Service Company of Colorado	)	Of Ms. Glustrom
For Approval of its 2007 Colorado	)	Served On Public Service Company
Resource Plan)	
)	
Docket No. 07A-447E	)	April 28, 2008

DISCOVERY REQUEST LWG6-18:

How many people on PSCo's system are likely to be disconnected each month during the summer months for failure to pay their bills.

RESPONSE:

PSCo estimates that 47,000 customers will have service disconnected between April 2008-October 2008.

Sponsor: Patrick Boland

Response Date: May 19, 2008

Re: In The Matter of the Application of)
Public Service Company of Colorado)
For Approval of its 2007 Colorado)
Resource Plan)
Docket No. 07A-447E)

Eighth Set of Discovery Requests
Of WRA
Served On Public Service Company
Concerning Arapahoe Repowering
filing

May 7, 2008

DISCOVERY REQUEST WRA8-2:

Please provide the Company's average cost of natural gas and coal for January – April 2008.

Response:

Average Commodity Gas Cost per MMBtu for Electricity Generation

PROD MONTH	AVERAGE PRICE
Jan-08	\$ 6.17
Feb-08	\$ 7.14
Mar-08	\$ 7.93
Apr-08	Not available

Coal

Jan 2008	Feb 2008	March 2008	April 2008
\$0.70/MMBTU	\$0.73/MMBTU	\$0.90/MMBTU	Not Available

Sponsor: Jennifer Pytlik – gas; Kathryn Valdez - coal

Response Date: May 14, 2008

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO

IN THE MATTER OF THE APPLICATION OF)
PUBLIC SERVICE COMPANY OF COLORADO) DOCKET NO. 07A-447E
FOR APPROVAL OF ITS 2007 COLORADO)
RESOURCE PLAN)

**SUPPLEMENTAL RESPONSES
OF THE COLORADO OFFICE OF CONSUMER COUNSEL
TO THE FIRST SET OF DISCOVERY REQUESTS OF
LESLIE GLUSTROM**

The Colorado Office of Consumer Counsel ("OCC"), by and through its undersigned counsel, submits the following Supplemental Responses to the First Set of Discovery Requests of Leslie Glustrom ("LWG").

DISCOVERY REQUESTS AND RESPONSES

07A-447E LWG 1-2: With respect to Dr. Schechter's testimony on page 40, lines 8-9, did Dr. Schechter do an independent analysis of the cost-effectiveness of keeping the Arapahoe coal plant open? If so, please provide all assumptions and work papers.

Response: The question is not intelligible without definitions of "analysis" and of "independent." In other words, what is an analysis and what is it to be independent of?

Without claiming that this is an independent analysis, I will state that it is straightforward to determine that the cost of generation at Arapahoe, with a heat rate of approximately 13,000 BTU/kWh and a cost of coal of approximately \$1.40 per million BTU, is approximately \$18/mWh. By comparison, the cost of generation from a natural gas combine cycle generator, with a heat rate of approximately 7,000 BTU/kWh and a (hypothetical and optimistic) cost of natural gas of approximately \$7.00 per Dth, is approximately \$50/mWh. I have no workpapers.

Submitted by:

PB Schechter

07A-447E LWG 1-3: With respect to Dr. Rosen's testimony, page 29, lines 10-17, please indicate what conclusions Dr. Rosen has reached regarding future prices of coal based on the work of Dr. Rutledge at CalTech. Please provide the PPT slides that support these conclusions.

Response: I have not translated the analytical work of Dr. Rutledge into coal price forecasts.

Submitted by:

Richard Rosen

07A-447E LWG 1-4: With respect to Dr. Rosen's testimony page 13, lines 12-13, please provide all documents that Dr. Rosen has relied on in his assessment that the prices of coal used by PSCo are not reasonable.

Response: I did not rely on any particular documents in reaching my conclusion that the prices for coal used by PSCo are not reasonable. This is a judgment based on my widespread reading in energy literature and based on the likely upward pressure that higher oil and natural gas prices will have for coal prices. Note that coal prices are currently rising in most parts of the world as oil prices rise.

Submitted by:

Richard Rosen

07A-447E LWG 1-5: With respect to Dr. Rosen's testimony, please provide Dr. Rosen's understanding of the relative carbon intensity of coal vs. natural gas production. Please provide quantitative answers.

Response: This question requires the specification of a heat rate for both the coal-fired and natural gas-fired electric generation, assuming it is referring to electric generation in the first place. Once a set of heat rates is specified, this calculation is easy to make based on data for the carbon content of coal and natural gas available on the web. But, approximately, natural gas has about 40% of the carbon content of coal per BTU.

Submitted by:

Richard Rosen

07A-447E LWG 1-6: With respect to the OCC's testimony, please provide Dr. Rosen's understanding of the relative carbon intensity of coal vs. natural gas production. Please provide quantitative answers.

Response: This is the same question as LWG 1-5.

Submitted by:

Richard Rosen

07A-447E LWG 1-7: With respect to the OCC's recommendation that the repowering of the Arapahoe coal plants be postponed, please provide all independent analyses done by the OCC related to the economic merits of retiring the Arapahoe coal plants. Please provide all workpapers and assumptions.

Response: See response to LWG 1-2. I have no workpapers.

Submitted by:

PB Schechter

07A-447E LWG 1-8: With respect to the OCC's recommendation that the repowering of the Arapahoe coal plants be postponed, please provide all sensitivity analyses done by the OCC related to the economic merits of retiring the Arapahoe coal plants as a function of the price of coal. Please provide all workpapers and assumptions.

Response: See responses to LWG 1-2 and 1-7. If the cost of coal were to triple, while the cost of natural remained at (the hypothetical, optimistic price of) \$7.00 per Dth, Arapahoe would still generate electricity at a lower variable cost than the variable cost of a natural gas combined cycle plant with a heat rate of 7,000 BTU/kWh. I have no workpapers.

Submitted by:

PB Schechter

07A-447E LWG 1-9: Please provide the OCC's understanding of how long CO2 stays in the atmosphere once it has been emitted. Please provide all references used in coming to this conclusion.

Response: Please check the IPCC's Fourth Assessment Report, but the OCC's general understanding of the half-life of CO2 in the atmosphere is about 100 years, or longer.

Submitted by:

Richard Rosen

07A-447E LWG 1-10: With respect to the OCC's recommendation that the repowering of the Arapahoe coal plants be postponed, please identify all parts of the OCC testimony that support this conclusion.

Response: I discuss the OCC's recommendation to defer the decision on whether to repower Arapahoe Station on pages 40 through 44 of my Answer Testimony.

Submitted by:

PB Schechter

DATED this 4th day of June, 2008.

Respectfully Submitted,

JOHN W. SUTHERS
Attorney General

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ATTORNEYS FOR THE COLORADO
OFFICE OF CONSUMER COUNSEL

RESPONSE TO LWG1-3:

- a. The wholesale contracts included in the 2003 Defined Term Resale Demand from Table 1.6A-1 of the 2003 Least Cost Plan peak demand forecast are Cheyenne Light, Fuel and Power Company (CLF&P), Aquila, and Municipal Energy Agency of Nebraska (MEAN). The individual demand forecasts of each of these wholesale customers is Confidential Information.
- b. The Wholesale Demand projections in Table JM-2 include Grand Valley REA, Holy Cross REA, Intermountain REA (IREA), Yampa Valley REA, Burlington, Center, Julesburg, Colorado Springs, Cheyenne Light Fuel and Power Company (CLF&P), Aquila, Arkansas River Power Authority (ARPA), and Municipal Energy Agency of Nebraska (MEAN). The individual demand forecasts of each of these wholesale customers is Confidential Information.
- c. The predicted drop in peak demand between 2007 and 2008 is due to the expiration of contracts with MEAN, ARPA, and Julesburg in September 2007 and with CLF&P in December 2007.

The predicted drop in peak demand between 2009 and 2010 is due to a reduction in load served to Holy Cross and IREA following the construction of Comanche 3.

The predicted drop in peak demand between 2011 and 2012 is due to the expiration of the Aquila contract in December 2011.

- d. The primary reasons for the variance between the 2003 Least Cost Plan forecast and actual demand are weather, new wholesale contracts that were not signed at the time of the 2003 LCP forecast, and interruptible capacity that was not interrupted at the time of the peak. See Attachment LWG1-3d for a detailed variance summary.
- e. There is a reduction in the forecast of Firm Retail Demand of 22 MW and a reduction in the forecast of Wholesale demand of 134 MW. The reduction in the Wholesale forecast is primarily due to a change in assumptions regarding Comanche 3. In 2006 the assumption was that during the first year of operation of Comanche 3, the PSCo load would not be reduced by the full amount of the plant capacity owned by Holy Cross and IREA, but would be reduced by the full amount in subsequent years. In 2007, the assumption changed to assume that the PSCo load would be reduced by the full capacity purchased by those two wholesale customers beginning in the first year and continuing through all subsequent years.
- f. Refer to the responses to LWG1-3b and LWG1-3c.
- g. Please see Attachment LWG1-3g.A1.xls.

Sponsor: Jannell Marks and Jim Hill

Date: June 29, 2007

Comparison of Forecasted Summer Peak Demand (2003 Least Cost Plan) with Actual Summer Peak Demand

2003 Least Cost Plan Forecast (MW)

Year	Firm Retail	Defined Term Resale	Other Resale	Total Firm	Weather Effect (Retail)	Interruptible Service On Line	Added Firm Resale	Other Resale	Total Firm	Forecast of Interruptible demand - 2003 LCP Forecast	Capacity Expected to be Interrupted	Capacity Interrupted at Peak	Interruptible Service On Line
2004	5,178	418	578	6,175	122	113	0	0	235	2004	152	39	113
2005	5,284	397	611	6,272	281	116	107	0	504	2005	176	60	116
2006	5,421	399	642	6,462	113	107	3	0	223	2006	177	71	106

Actual Summer Peak Demand (MW)

Year	Firm Retail	Defined Term Resale	Other Resale	Total Firm	Weather Adjusted Firm Retail	Defined Term Resale	Other Resale	Total Firm
2004	5,255	417	602	6,274	5,020	417	602	6,039
2005	5,690	532	675	6,897	5,293	425	675	6,393
2006	5,570	425	661	6,656	5,350	422	661	6,433

Difference: Actual - Forecast

Year	Firm Retail	Defined Term Resale	Other Resale	Total Firm	Firm Retail	Defined Term Resale	Other Resale	Total Firm
2004	76	-1	24	99	-159	-1	24	-136
2005	426	135	64	625	29	28	64	121
2006	149	26	19	194	-71	23	19	-29

% difference

Year	Firm Retail	Defined Term Resale	Other Resale	Total Firm	Firm Retail	Defined Term Resale	Other Resale	Total Firm
2004	1.5%	-0.2%	4.2%	1.6%	-3.1%	-0.2%	4.2%	-2.2%
2005	8.1%	34.0%	10.5%	10.0%	0.6%	7.1%	10.5%	1.9%
2006	2.7%	6.5%	3.0%	3.0%	-1.3%	5.8%	3.0%	-0.4%

Remaining Variance:

Some of the remaining variance in both Resale categories in 2005 was probably due to the unusually hot temperatures in Colorado. We quantify the weather impact on PSCO retail demand, but we don't quantify the impact on resale demand. On July 21, the 2005 peak day, the high temperature in Denver was 101 degrees, and it was 106 degrees in Grand Junction. The previous day, July 20, the high temperatures were 104 degrees in Denver and 105 degrees in Grand Junction. Since our largest resale customers are located on the Front Range and in the northwest part of Colorado, we believe this very hot weather increased loads for these wholesale customers.

Re: In The Matter of the Application of)
Public Service Company of Colorado)
For Commission Approval of a)
Contingency Plan for Meeting the 2013)
Resource Need)
Docket No. 07A-107E)

First Set of Discovery Requests
Of Leslie Glustrom
Served On Public Service Company

June 18, 2007

DISCOVERY REQUEST NO. LWG1-8:

Please provide a load duration curve for each of the years between 1997 and 2006. The vertical axis should be system load and the horizontal axis should be percentage of time the load is experienced. Thank you.

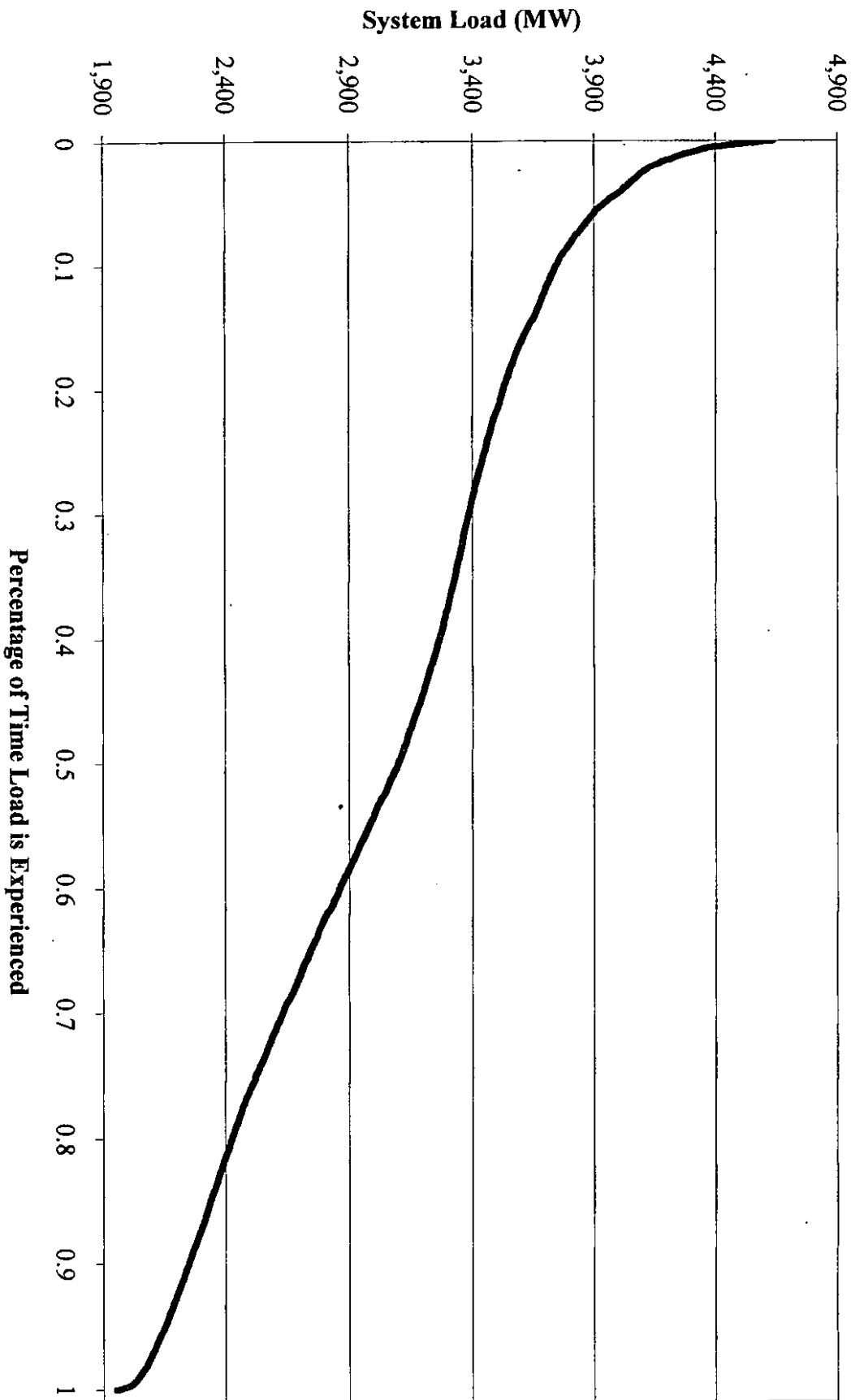
RESPONSE:

Refer to Attachment LWG1-8.

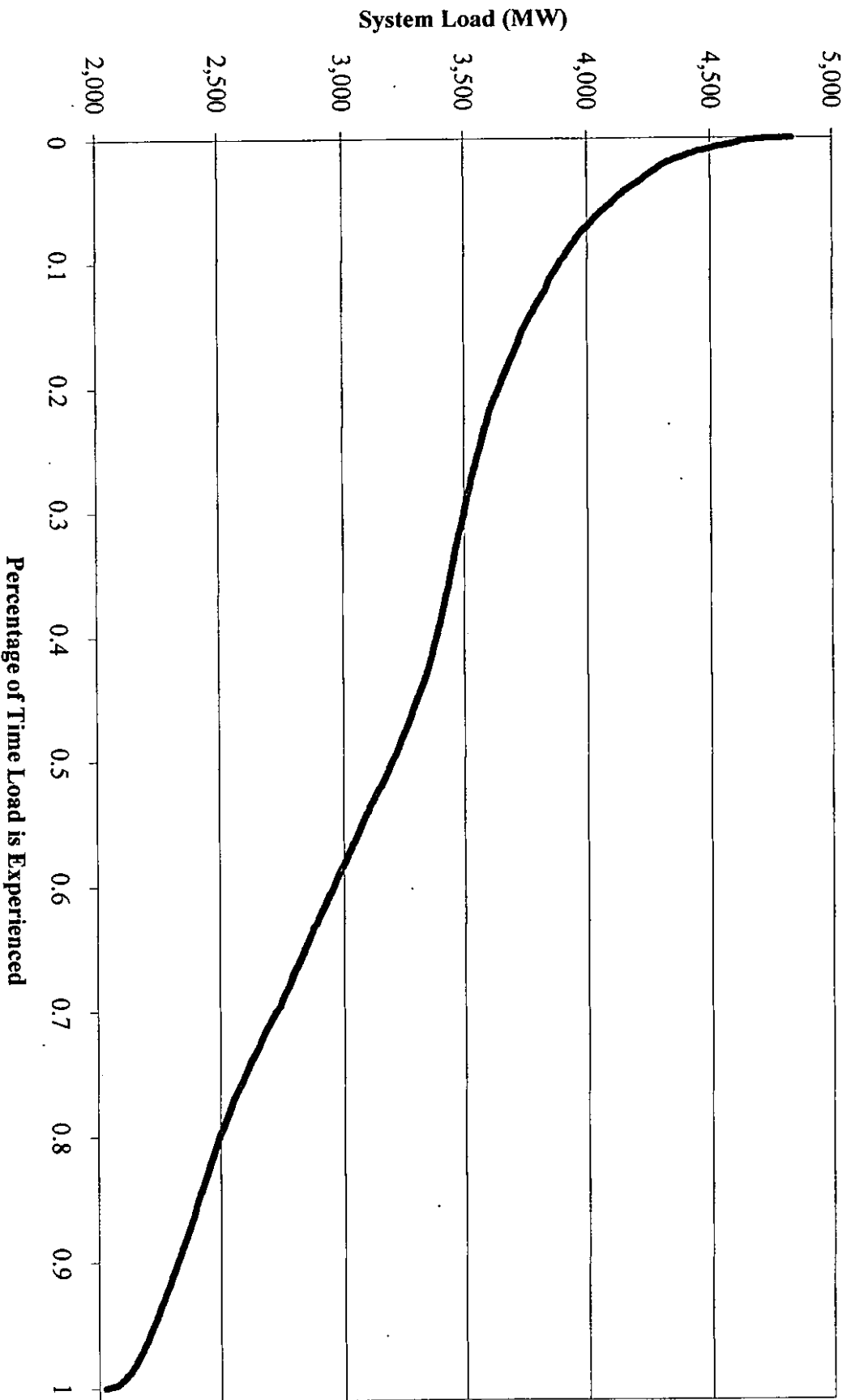
Sponsor: Jannell Marks

Date: June 29, 2007

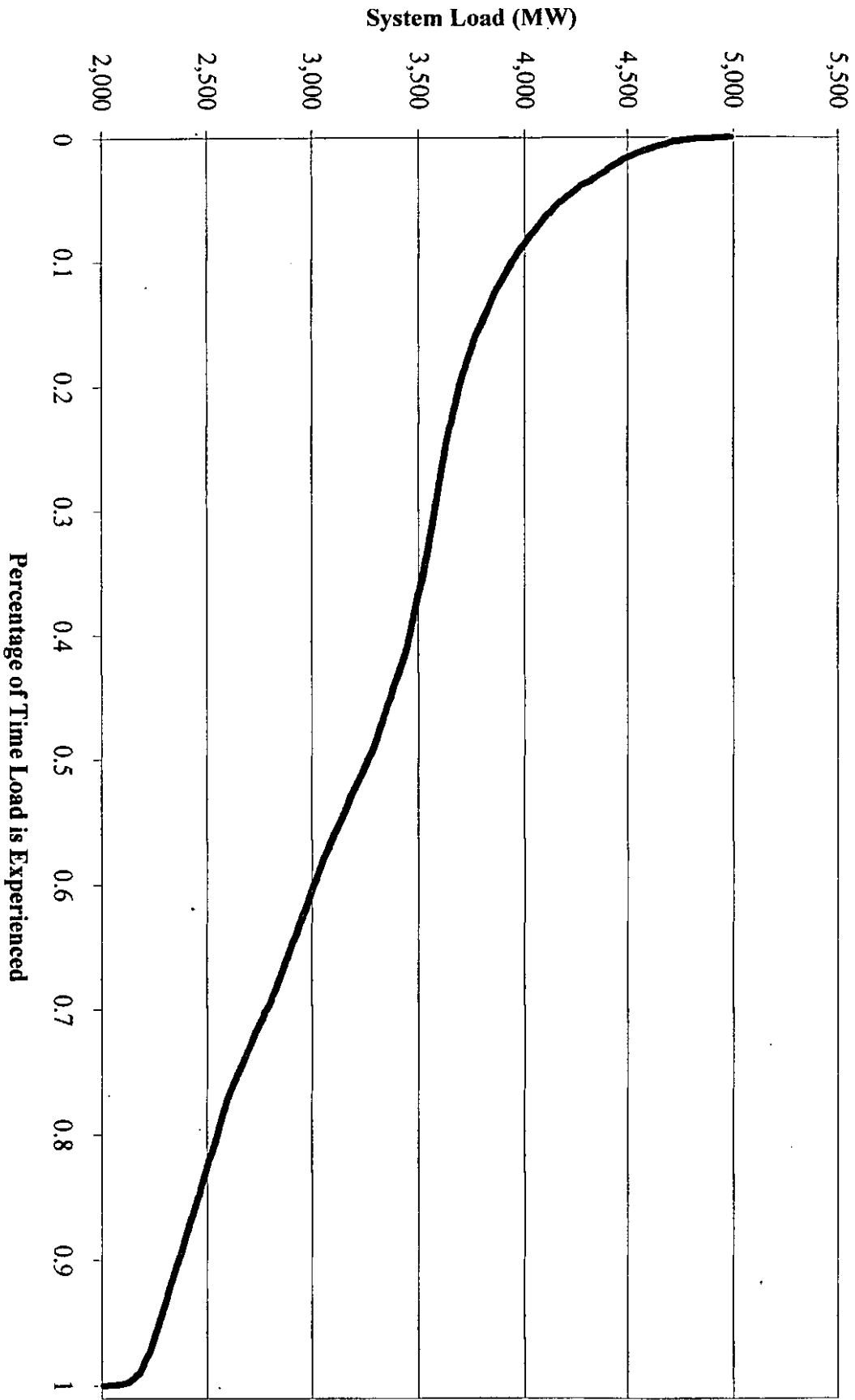
PSCo Load Duration Curve 1997



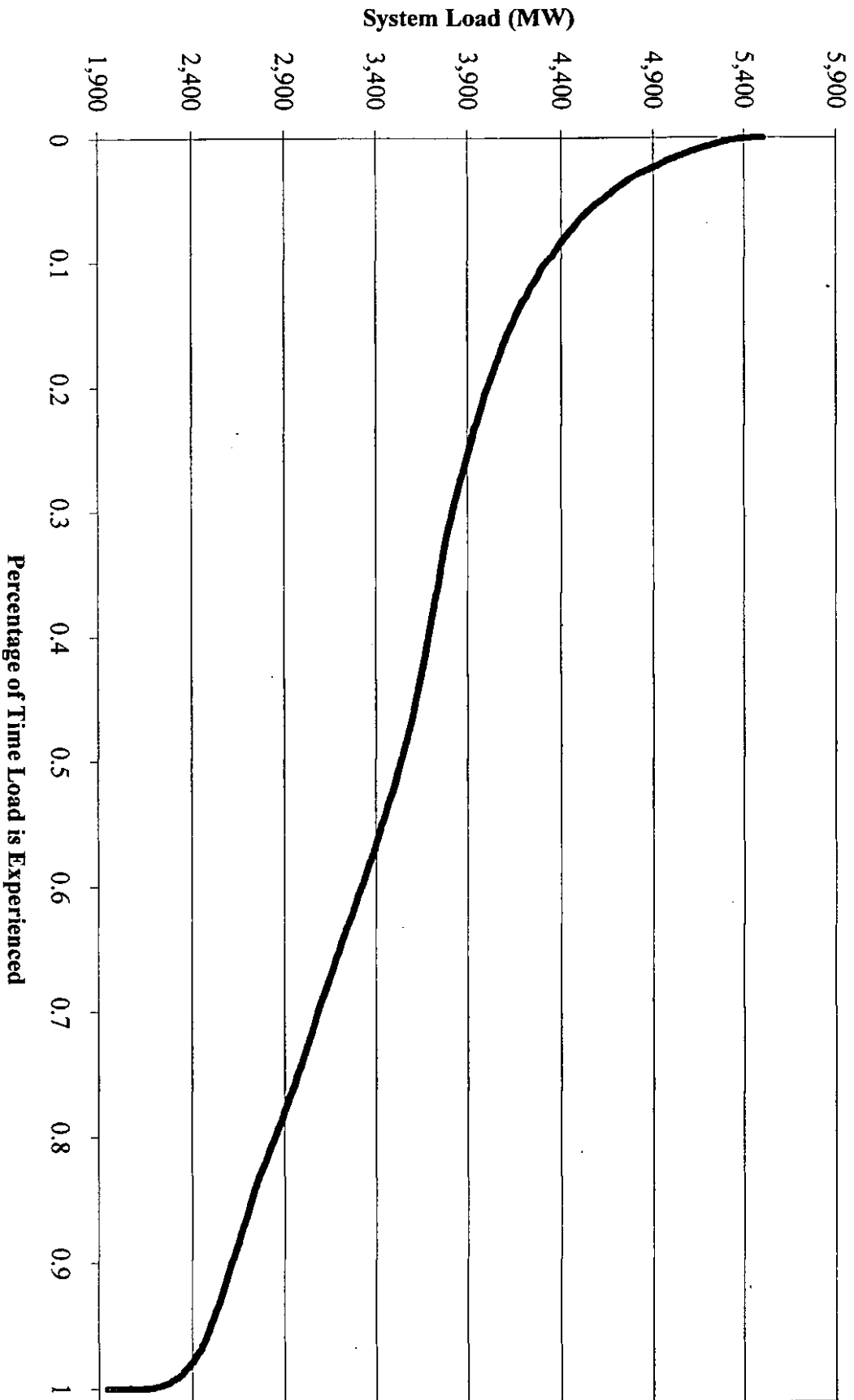
PSCo Load Duration Curve 1998



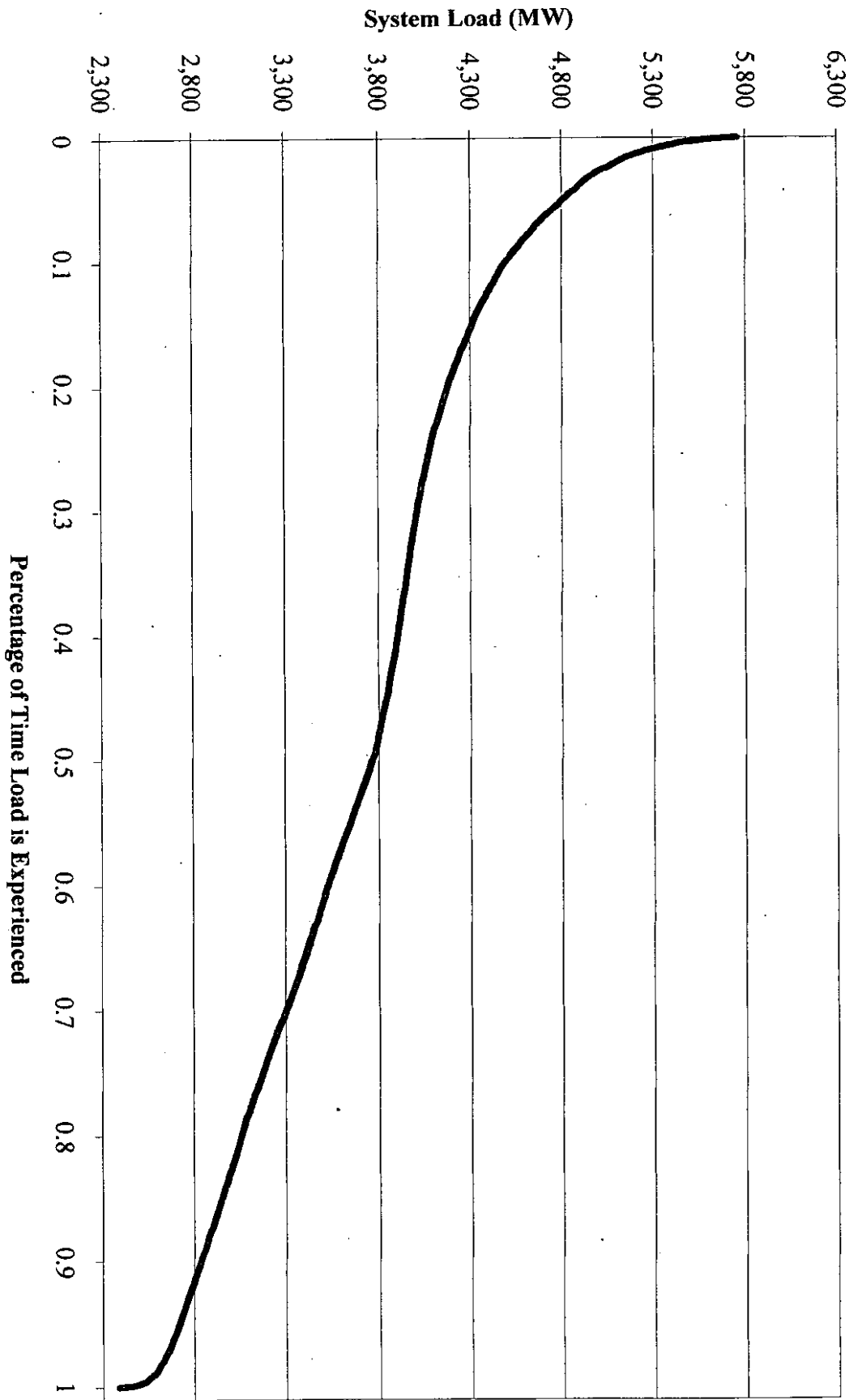
PSCo Load Duration Curve 1999



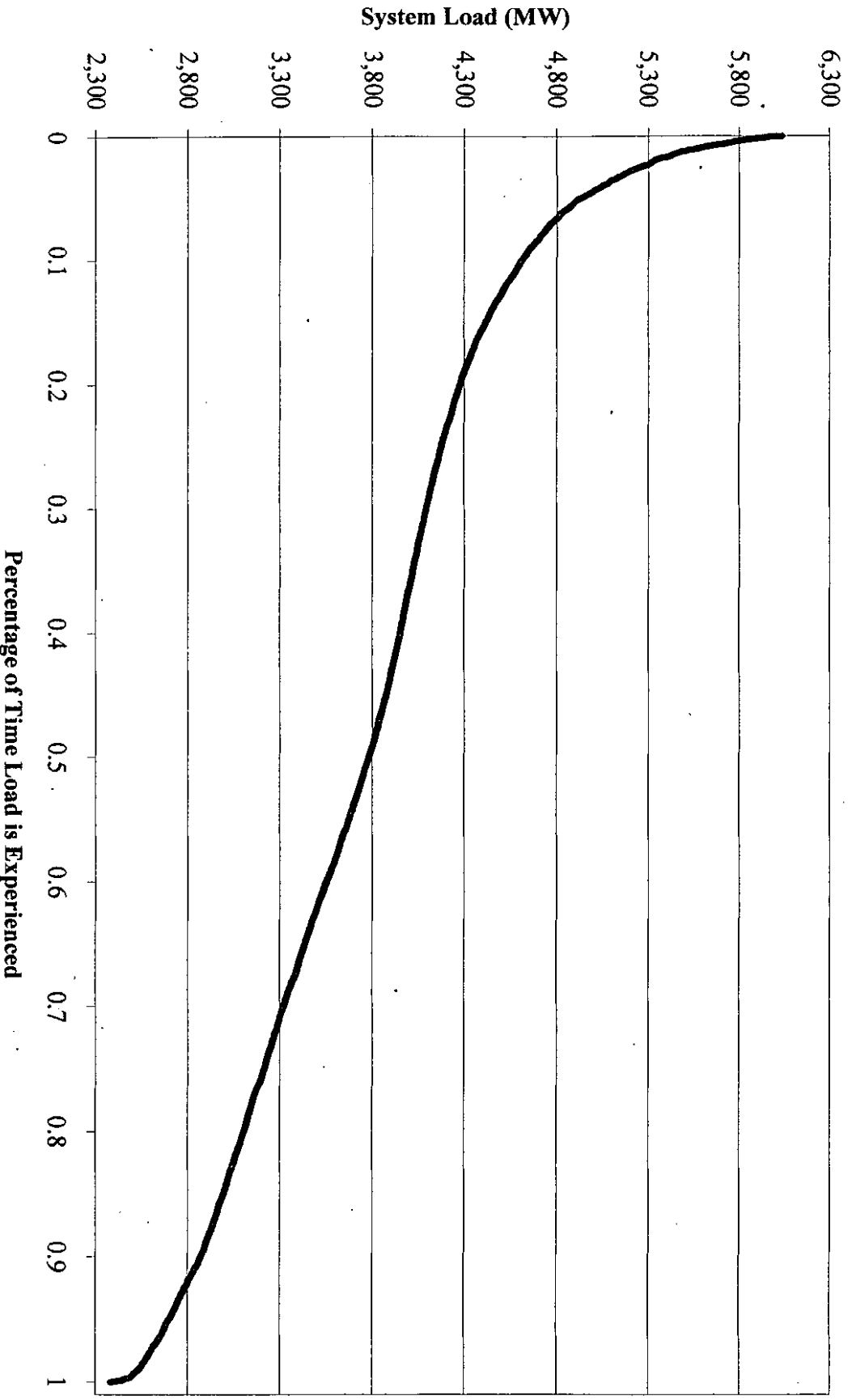
PSCo Load Duration Curve 2000



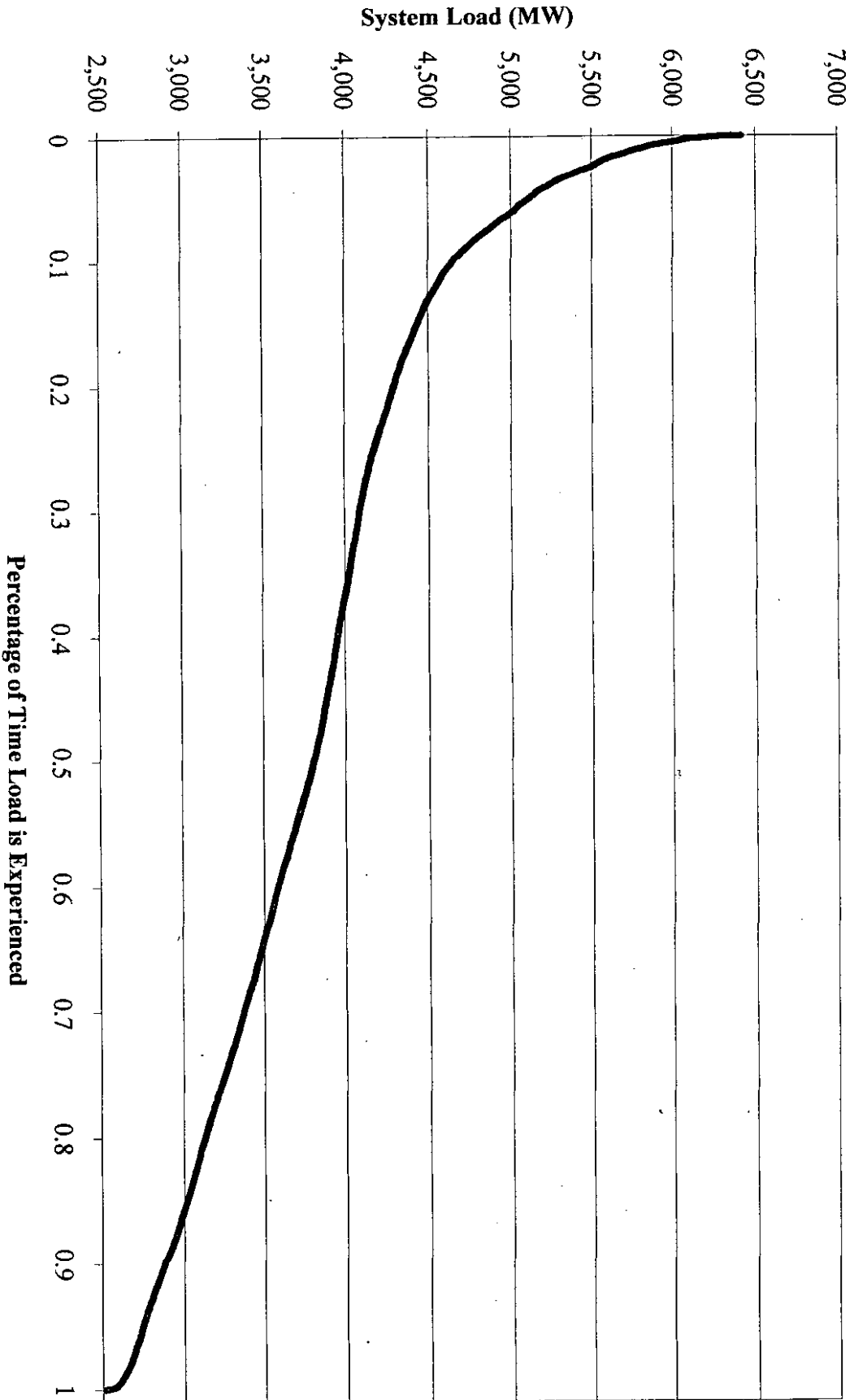
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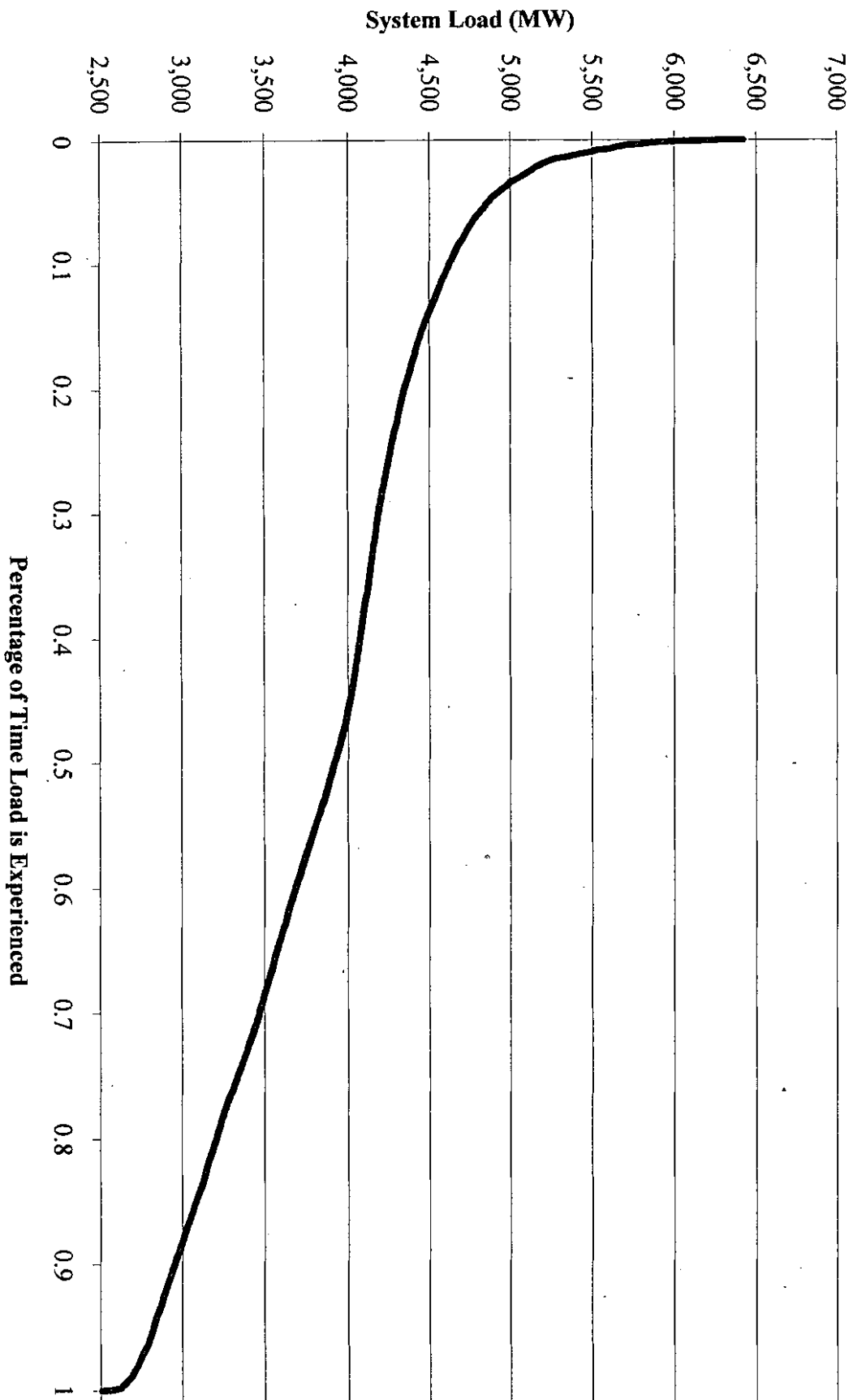
PSCo Load Duration Curve 2002



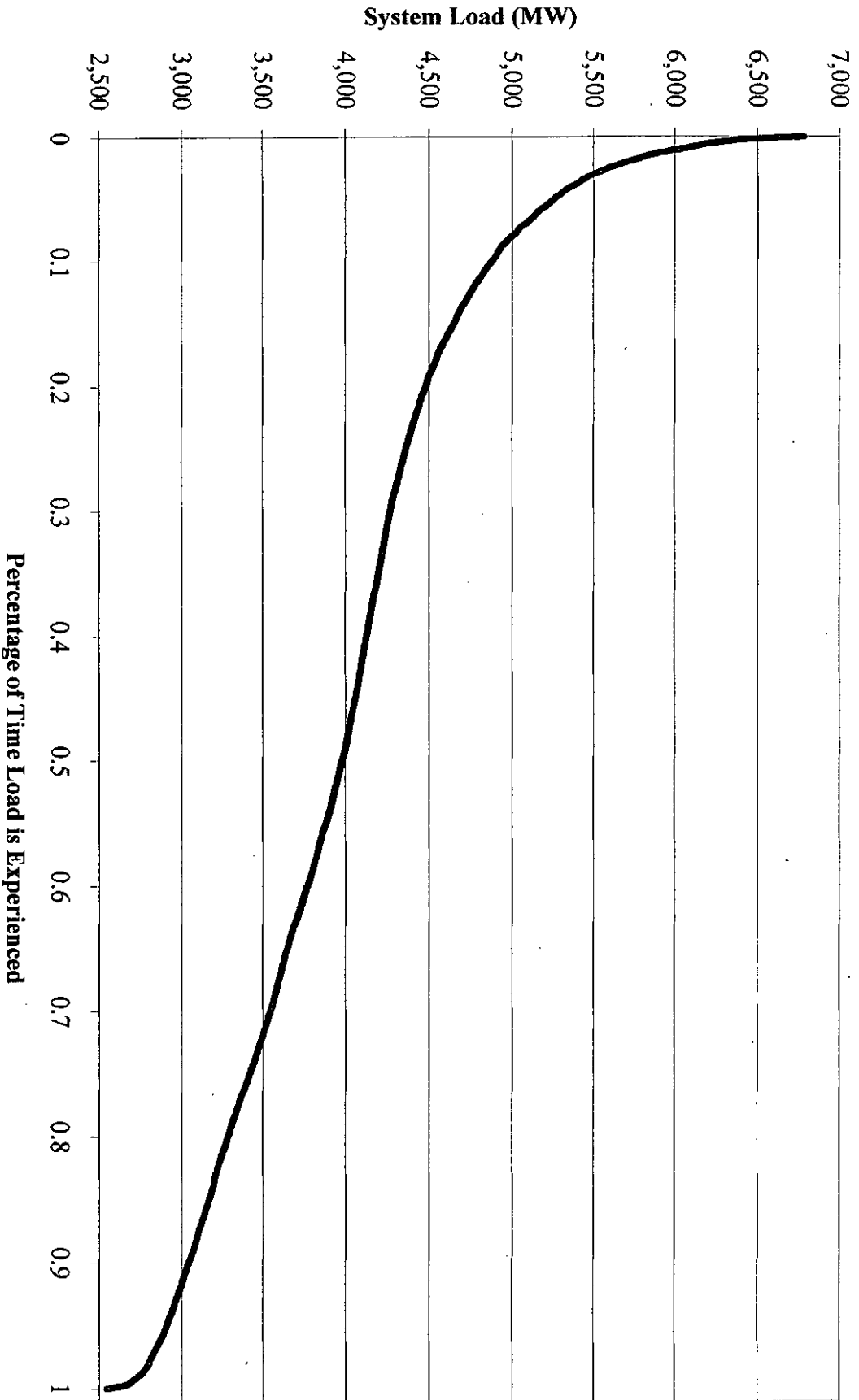
PSCo Load Duration Curve 2003



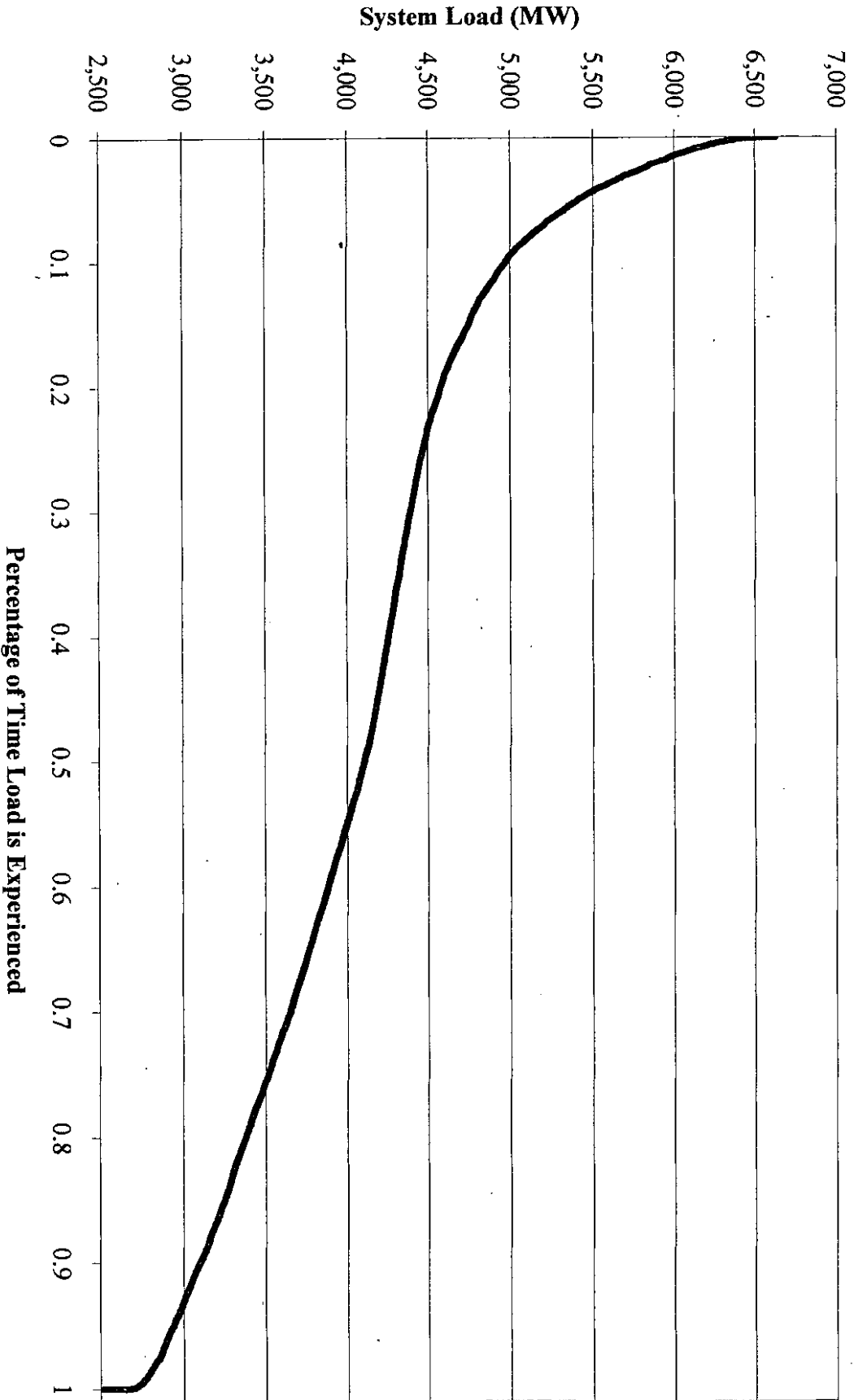
PSCo Load Duration Curve 2004



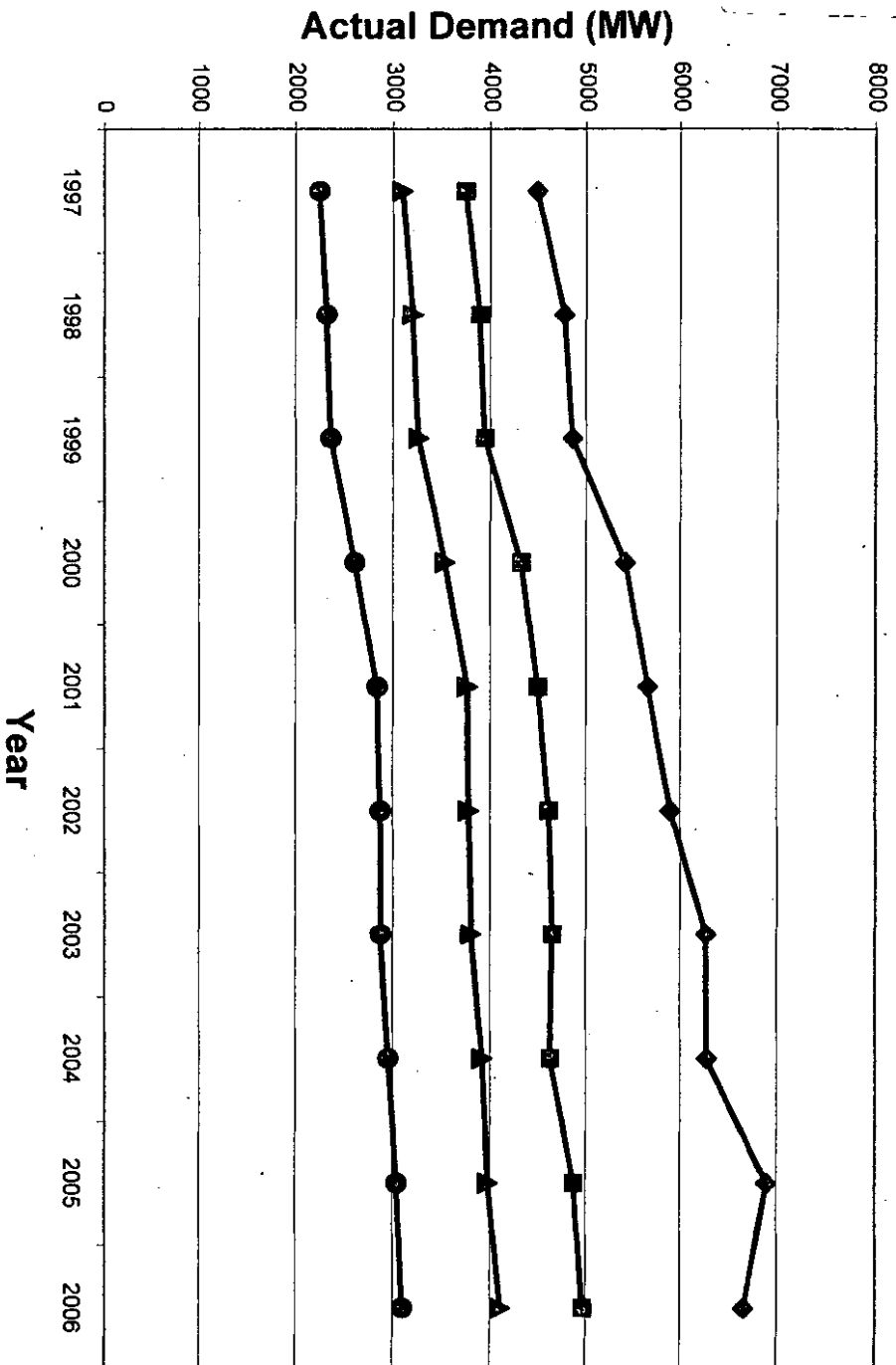
PSCo Load Duration Curve 2005



PSCo Load Duration Curve 2006



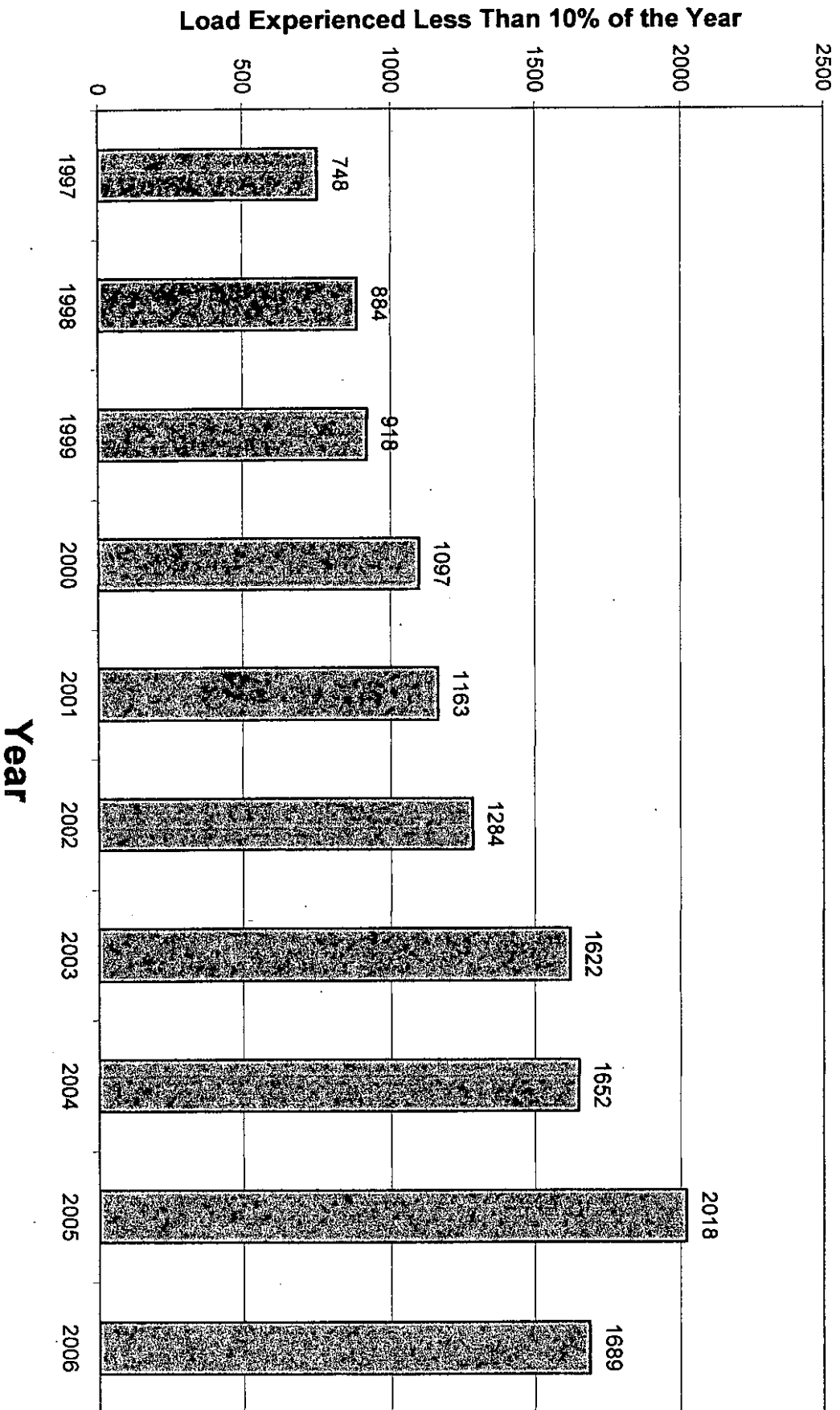
Analysis of Xcel's Load Duration Curves 1997-2006



Note that Peak Demand has been rising faster than the increase in demand in other parts of the curve.

◆ Peak Demand
 ■ Demand at 0.1 (i.e. 10%)
 ▲ Demand at 0.5 (i.e. 50%)
 ● Demand at 0.9 (i.e. 90%)

PSCo Load Experienced Less Than 10% of the Time 1997-2006



Analysis of Xcel's Load Duration Curves 1997-2006
 By Leslie Glustrom May 11, 2008 *
 Load Duration Curves Received from Xcel in Docket 07A-107E
 in Response to Discovery Request LWG 1-8

Year	Peak Demand (MW)	0.1 Demand (MW)	0.5 Demand (MW)	0.9 Demand (MW)	Peak Demand	-0.1 Demand
1997	4487	3739	3095	2249		748
1998	4771	3887	3197	2321		884
1999	4858	3940	3258	2363		918
2000	5416	4319	3534	2612		1097
2001	5655	4492	3760	2836		1163
2002	5895	4611	3776	2873		1284
2003	6268	4646	3802	2877		1622
2004	6275	4623	3917	2952		1652
2005	6894	4876	3978	3041		2018
2006	6656	4967	4104	3097		1689
2007	6911**					

*Data points taken from Load Duration Curves supplied by Xcel. Data points taken by holding mouse over each Load Duration Curve and recording the values as close as possible to the 0.1, 0.5 and 0.9 points. Peak Demand taken from Table 2.7-1 (page 2-127) in Xcel's Colorado Resource Plan Docket 07A-447E

**2007 Peak Demand from Denver Post July 26, 2008 and Rocky Mountain News July 25 2007. A 2007 Load Duration Curve has been requested from Xcel but not yet received.

Xcel's Colorado Peak Demand Projections v. Actual 2004-2007

Year	2003 LCP Proj ¹	Actual	Difference ("-" = under)
2004	6175	6274	-99
2005	6272	6897	-625
2006	6462	6656	-194
2007	6666	6911*	-245

Year	07A-107E Proj ²	Actual	Difference ("-" = under)
2007	6688	6911*	-223

¹ 2003 Least Cost Plan Projections

Docket 04A-214E, Volume 4, Page 3, Table 1.6.A-1 (Dated April 30, 2004)

² 2007 "2013 Contingency Plan" Projections

Docket 07A-107E Direct Testimony of Jannell Marks Table JM-2 (May 2007)

* 2007 Peak Demand from Denver Post July 26, 2007 and
Rocky Mountain News July 25, 2007

Release Date: July 25, 2007
Contact: PG&E News Department (415) 973-5930

PG&E Signs Agreement With Solel for 553 Megawatts of Solar Power

SAN FRANCISCO, CA -- Pacific Gas and Electric Company announced today that it has entered into a landmark renewable energy agreement with Solel-MSP-1 to purchase renewable energy from the Mojave Solar Park, to be constructed in California's Mojave Desert. The project will deliver 553 megawatts of solar power, the equivalent of powering 400,000 homes, to PG&E's customers in northern and central California. The Mojave Solar Park project is now the world's largest single solar commitment.

"The solar thermal project announced today is another major milestone in realizing our goal to supply 20 percent of our customers' energy needs with clean renewable energy," said Fong Wan, vice president of Energy Procurement, PG&E. "Through the agreement with Solel, we can harness the sun's climate-friendly power to provide our customers with reliable and cost-effective energy on an unprecedented scale."

The plant utilizes Solel's patented and commercially-proven solar thermal parabolic trough technology. Over the past 20 years, the technology has powered nine operating solar power plants in the Mojave Desert and is currently generating 354 MW of annual electricity. When fully operational in 2011, the Mojave Solar Park plant will cover up to 6,000 acres, or nine square miles in the Mojave Desert. The project will rely on 1.2 million mirrors and 317 miles of vacuum tubing to capture the desert sun's heat.

"We are thrilled to bring 553 MW of clean energy to California," said Avi Brenmiller, chief executive officer of Solel Solar Systems. "Our proven solar technology means Solel can economically turn the energy of the warm California sun into clean power for the state's homes and businesses."

Solel Solar Systems of Israel, the world's largest solar thermal company, is the parent company of Solel-MSP-1 LLC. Solel's leading technology utilizes parabolic mirrors to concentrate solar energy onto its patented UVAC 2008 solar thermal receivers. The receivers contain a fluid that is heated and circulated, and the heat is released to generate steam. The steam powers a turbine to produce electricity, which can be delivered to a utility's electric grid. The electricity generated by Mojave Solar Park will use some of the transmission infrastructure originally built for the now dormant coal-fired Mojave Generation Station to deliver the power to PG&E's customers.

The agreement filed today with the California Public Utilities Commission is part of PG&E's broader renewable energy portfolio. PG&E currently supplies 12 percent of its energy from qualifying renewable sources under California's Renewable Portfolio Standard (RPS) program. With more than 50 percent of the energy PG&E delivers to its

customers coming from generating sources that emit no carbon dioxide, PG&E provides among the cleanest energy in the nation.

PG&E is aggressively adding renewable electric power resources to its supply and is on target to exceed 20 percent under contract or delivered by 2010. With the Solel-MSP-1 announcement, and other recently signed renewable agreements, PG&E now has contracts to provide 18 percent of its future energy supply from renewable sources. PG&E has recently signed several other renewable energy agreements including an 85 MW wind project with PPM Energy, 7 MW of utility-scale solar projects with Cleantech America and GreenVolts, and a 25.5 MW contract with Western GeoPower, Inc. for a new geothermal energy facility in Sonoma County, California. PG&E is seeking regulatory approval of these five renewable energy contracts.

California's RPS Program requires each utility to increase its procurement of eligible renewable generating resources by one percent of load per year to achieve a twenty percent renewables goal by 2010. The RPS Program was passed by the Legislature and is managed by California's Public Utilities Commission and Energy Commission.

Solel Solar Systems also provides key technology components for new solar thermal plants currently under construction in the U.S. and in Spain. In addition, Solel and Sacyr-Vallehermoso are jointly building solar power plants in Spain and Solel recently completed the upgrading of more than 100 MW of solar facilities in California. Solel's headquarters, manufacturing plant, research and development center are in Beit Shemesh, Israel with its U.S. development office in Los Angeles, California. For more information about Solel, please visit the website at www.Solel.com.

For more information about Pacific Gas and Electric Company, please visit the company's website at www.pge.com.

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PG&E and Ausra Announce 177 Megawatt Solar Thermal Power Agreement



SAN FRANCISCO, Calif.—Nov. 5, 2007—Pacific Gas and Electric Company today announced that it has entered into a 177 megawatt solar thermal power purchasing agreement with Ausra Inc. The project, to be located in central California, is being developed by Ausra.

"Today's agreement between PG&E and Ausra highlights how clean energy will create jobs in California while delivering a reliable source of renewable energy," said Governor Arnold Schwarzenegger. "I'm pleased to see California companies rising to the challenge of AB 32, California's historic initiative to reduce carbon emissions and combat climate change. Clearly, California continues to lead the nation in clean energy research, development and generation."

The plant, to be located in San Luis Obispo County, Calif., is expected to begin generating power in 2010. Ausra has filed its Application for Certification for this plant with the California Energy Commission, which must grant approval before construction begins.

"Solar thermal technology provides our customers with a reliable source of clean renewable energy that is ideally suited to meet peak energy loads," said Fong Wan, vice president of energy procurement, PG&E. "By partnering with Ausra, we are taking another significant step in providing our customers with some of the cleanest energy in the nation."

Ausra projects that the power plant will create over 350 skilled jobs on-site during construction, and an additional 100 permanent jobs in the area. The plant will burn no fuel, use minimal water, and have no air or water emissions. At 177 megawatts of capacity, the project will use only one square mile (640 acres) of land due to the exceptional area efficiency of Ausra's collector technology.

"This 177-megawatt plant is the first manifestation of Ausra and PG&E's shared vision of competitively priced, large-scale solar electric power," said Glen Davis, executive vice president and chief commercial officer of Ausra. "We're excited to be partnering with PG&E to deliver clean power at hours of peak demand."

Ausra's new Compact Linear Fresnel Reflector (CLFR) solar technology utilizes the heat from the sun's rays to create steam. Solar collectors boil water at high temperatures to power steam turbine generators, in much the same way as traditional fossil-fuel power plants, but without use of fuels or emissions.

At the Clinton Global Initiative annual meeting in September, PG&E and Ausra announced separate commitments to build and purchase 1,000 MW of solar thermal power over the next five years.

The agreement filed today with the California Public Utilities Commission is the latest example of PG&E's commitment to solar thermal technology. PG&E currently has 553 MW of solar thermal power under contract and is seeking regulatory approval of these purchasing agreements.

PG&E's solar thermal commitments are part of the company's broader renewable energy portfolio. PG&E currently supplies 12 percent of its energy from qualifying renewable sources under California's Renewable Portfolio Standard (RPS) program. PG&E continues to aggressively add renewable electric power resources to its supply and is on target to exceed 20 percent under contract or delivered by 2010. On average, more than 50 percent of the energy PG&E delivers to its customers comes from generating sources that emit no carbon dioxide, providing among the cleanest energy in the nation.

California's RPS Program requires each utility to increase its procurement of eligible renewable generating resources by one percent of load per year to achieve a 20 percent renewables goal by 2010. The RPS Program was passed by the Legislature and is managed by California's Public Utilities Commission and Energy Commission.

About Ausra

Ausra Inc. develops and deploys utility-scale solar thermal power technology to serve global electricity needs in a dependable, market-competitive, environmentally responsible manner. Located in Palo Alto, Calif., Ausra is a privately held company funded by Khosla Ventures and Kleiner, Perkins, Caufield & Byers. To learn more about Ausra and solar thermal electric power, visit www.ausra.com.

For more information about Pacific Gas and Electric Company, please visit the company's website at www.pge.com.

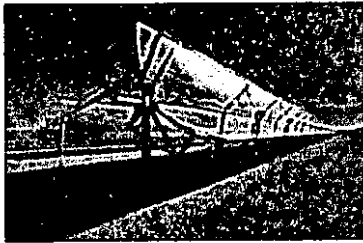
Attachment 16
Docket 07A-447E
LWG Cross Answer Testimony

Big Solar Project Planned for Arizona Desert

\$1 billion installation would use parabolic mirrors to generate power southwest of Phoenix

By [Marianne Lavelle](#)
Posted February 21, 2008
US News and World Report

It's a big week for mirrors in the desert—with two big southwestern projects putting a spotlight on a form of big-scale solar energy that its most ardent advocates believe has the best chance of expanding the nation's share of electricity from renewable sources.



The Nevada Solar One solar power plant located near Boulder City, Nevada.
(Acciona Energy North America)

Related News

- [Energy is Pricey—But So Is Building More Power Plants](#)
- [Power Revolution](#)
- [Getting a Second Wind](#)
- [Congress Walks Out on Renewable Energy](#)
- [Video: Power Revolution](#)

Today, Arizona's largest utility, Arizona Public Service, is announcing plans to build the world's largest "concentrating solar power" plant, a \$1 billion project to spread parabolic mirrors over a 3-mile-square stretch of desert 70 miles southwest of Phoenix. To be designed and built by the Spanish firm Abengoa, it would generate 280 megawatts of electricity, or enough to power 70,000 homes.

That makes it four times as large as Nevada Solar One, near Boulder City, Nev., which last summer became the first CSP plant to open in the United States in more than 17 years. Tomorrow, Nevada Solar One's developer, a rival Spanish company, Acciona, plans a star-studded dedication ceremony for the facility, with speakers including former astronaut Sally Ride, Apple cofounder Steve Wozniak, and actor/activist Ed Begley Jr.

The dedication, says Acciona Energy North America chief executive Peter Duprey, is meant to get the word out that concentrating solar "is a reality today, and we need to be developing it and exploiting it."

Unlike the solar energy that most people know, CSP doesn't use expensive semiconductor material to transform the sun's energy into electricity. CSP relies on mirrors to focus sunlight onto a heat transfer fluid, which in turn heats water into steam, which turns turbines to generate power. The big Arizona plant, which will be called Solana Generating Station, will take the technology an exciting step forward by using molten salt to store solar energy for up to six hours. "When the sun sets, this plant keeps on ticking," says Arizona Public Service President Don Brandt. "We'll have solar energy in the dark."

The big issue with solar energy has been the cost. Brandt says the Solana plant is expected to generate electricity at 12 cents to 14 cents per kilowatt-hour, which is about 20 percent more than the cost of the other electricity that APS generates with its mix of nuclear, natural gas, and coal. But Brandt notes that since the price of the fuel is free, it's a 30-year contract with one big source of risk eliminated. If natural gas prices increase or if coal-fired power is made more expensive because of climate-change legislation, the CSP power could end up being one of the lowest-priced forms of electricity in the utility's portfolio. "Any business wants to diversify its sources of supply," Brandt says. "That's why we feel right now the price is attractive. And you factor in the possibility of natural gas prices rising or any carbon legislation, and I think we'll look back in five years and think this was an absolute grand-slam home run."

In the late 1970s, it was the U.S. government that spurred research and development of CSP technology through a series of experimental projects in the Mojave Desert—one of which has been generating power for years, operated by Florida Power & Light. But in recent years, European companies have taken the lead in big-scale renewable energy projects, spurred by aggressive government incentives.

Duprey of Acciona says his company is building four more CSP plants in Spain and has a number in development in the United States. He says all will be two or three times the scale of Nevada Solar One, which was a \$226 million project. "This plant is on the smaller side, because we wanted to see how it would work," he says. "We had to start out with all new suppliers and build out this industry. It's like an infant—we have to nurture it and bring it along."

"We believe the technology is proven, it's a matter of getting more suppliers and getting competition among suppliers and driving the cost down," he says.



**Pacific Gas and
Electric Company®**

News Department
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San Francisco, CA
94105
415/973-5930

BrightSourceEnergy

FOR IMMEDIATE RELEASE:

April 1, 2008

CONTACT: PG&E News Department (415) 973-5930
BrightSource Energy: Jane Dryden (408) 249-9608, jane@drydenmg.com;
Elie Bennett +972-54-476-6393, elie@lonestar.co.il (Israel for Luz II)

**PG&E SIGNS CONTRACTS WITH BRIGHTSOURCE ENERGY FOR UP TO 900
MEGAWATTS OF SOLAR THERMAL POWER**

SAN FRANCISCO – Pacific Gas and Electric Company announced today that it has entered into a series of contracts with BrightSource Energy, Inc. for renewable solar power. The first three contracts are for a total of 500 megawatts (MW) of power to be supplied from three solar thermal electric generating projects. PG&E also signed two contracts for options on an additional 400 MW of solar power, which would bring the total amount of power purchased under these five agreements to 900 MW.

“Solar thermal energy is an especially attractive renewable power source because it is available when needed most in California – during the peak mid-day summer period,” said Fong Wan, vice president of energy procurement at PG&E. “Through these agreements with BrightSource, we continue to broaden our renewable energy portfolio and provide our customers with some of the cleanest energy in the nation.”

BrightSource’s goal is to substantially lower the cost and increase the use of solar energy throughout the Western United States. “PG&E is making this goal possible by committing to power purchase agreements that will bring the benefit of carbon-free power to their customers,” noted John Woolard, president and CEO of BrightSource in making this announcement. “PG&E is demonstrating true leadership in bringing large scale solar power to California.”

The first of these solar power plants, sized at 100 MW in Ivanpah, California, could be operating as early as 2011 and is expected to produce 246,000 megawatt hours of renewable electricity per year. BrightSource will build and place in commercial operation each of its plants as quickly as permitting and infrastructure allow.

The contracts filed today with the California Public Utilities Commission are part of PG&E’s broader renewable energy portfolio. Since 2002, PG&E has entered into contracts for more than 2,000 MW of renewable power. California law requires each investor-owned utility to increase the share of

eligible renewable generating resources in its electric power portfolio to 20 percent by 2010. PG&E has made contractual commitments to have over 20 percent of its future deliveries from renewables. For 2008, PG&E expects to have 14 percent of its energy delivered from renewable sources.

About BrightSource Energy, Inc.

BrightSource Energy designs and builds large-scale power plants capable of delivering solar energy to industrial and utility customers at prices competitive with fossil fuels. BrightSource enables industrial and utility customers to lessen their dependency on fossil fuels by providing a clean source of power.

Luz II, Ltd., a wholly owned subsidiary of BrightSource Energy, is located in Israel and is responsible for solar technology development and the supply of solar fields to BrightSource plants.

Privately held, BrightSource Energy is headquartered in Oakland, California. Further information for BrightSource and Luz II may be found at www.brightsourceenergy.com.

About Pacific Gas and Electric Co.

Pacific Gas and Electric Company, a subsidiary of PG&E Corporation, is one of the largest combined natural gas and electric utilities in the United States. Based in San Francisco, with 20,000 employees, the company delivers some of the nation's cleanest energy to 15 million people in northern and central California. For more information, visit www.pge.com/about/.

REUTERS

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So Cal Edison, eSolar enter 245-MW power pact

Tue Jun 3, 2008 2:16pm EDT

LOS ANGELES (Reuters) - Southern California solar thermal developer eSolar and investor-owned utility Southern California Edison said on Tuesday they will build a total of 245 megawatts of concentrating solar towers to be operational in 2011.

Pasadena, California-based eSolar will build the plants in the Antelope Valley of Southern California and will then sell the renewable, no-emissions electricity to SCE in a 20-year purchase agreement.

SCE, serving 4.8 million electricity customers, is the biggest subsidiary of Edison International, based in Rosemead, which like Pasadena is in the Los Angeles area.

In April, eSolar announced \$130 million in funding from Google Inc's philanthropy arm and other investors.

The SCE series of solar towers to be built by eSolar were mentioned in April when eSolar made its Google funding announcement.

Google.org, technology incubator Idealab, Oak Investment Partners and other investors contributed to the funding.

Concentrating solar power is seen by its developers and investors as a viable replacement for fossil-fueled power plants because its plants can rival the size of many conventional power plants.

Also, its supporters say concentrating solar power will soon provide electricity near or at the price of coal- and natural gas-fired power plants.

So Cal Edison's top renewable power officer Stuart Hemphill said, "eSolar's proposed solar projects promise to be modular, scalable and easily and rapidly deployed. SCE is excited about the prospects of eSolar's unique solar technology and the potential benefits it can bring for our customers."

SCE and other California utilities are required by the state to increase their no-emissions power sources.

Asif Ansari, founder and chief executive of eSolar, said the prefabricated solar towers offer flexibility with customers ranging from smaller plants to smaller utilities as well as those like SCE, one of the largest power utilities in the United States.

(Reporting by Bernard Woodall; bernard.woodall@thomsonreuters.com; +1 213-955-6752; Editing by Christian Wiessner)

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- ☰ Mine and Facility Locations
- ☰ Summary Statistics
- ☰ Mine Profiles and Product Summary
- ☰ Foundation Energy Sales

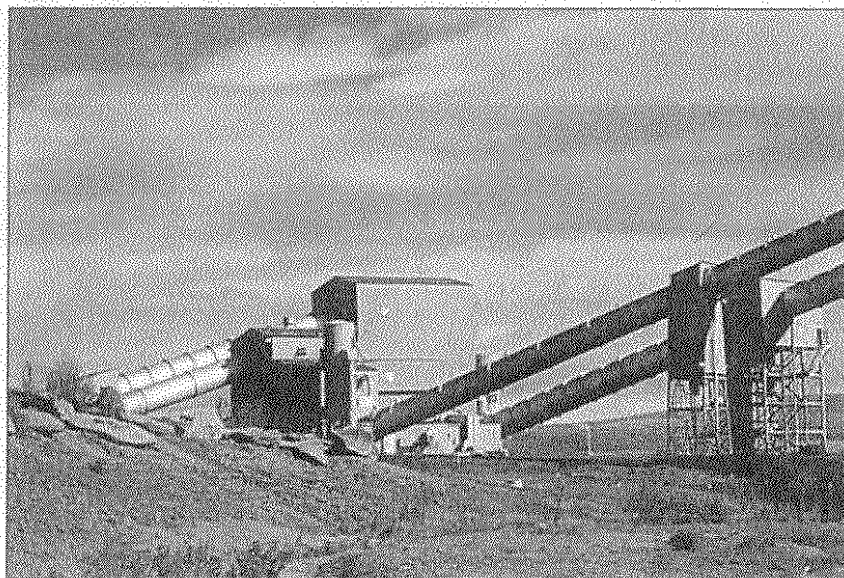
home · Operations · Mine and Facility Locations · Powder River Basin Operations

Powder River Basin Operations

We control approximately 676.8 million tons of coal reserves in the Powder River Basin, the largest and fastest growing U.S. coal-producing region. Our subsidiaries, Foundation Coal West, Inc. and Foundation Wyoming Land Company, own and manage two sub-bituminous, low sulfur, non-union surface mines that sold 43.6 million tons of coal in 2005, or 66% of our total production volume. The two mines employ approximately 510 salaried and hourly employees. Our Powder River Basin mines have produced over 900 million tons of coal since 1972.

Belle Ayr Mine

The Belle Ayr mine, located approximately 18 miles southeast of Gillette, Wyoming, extracts coal from the Wyodak-Anderson Seam, which averages 75 feet thick, using the truck-and-shovel mining method. Belle Ayr shipped 19.5 million tons of coal in 2005. The mine sells 100% of raw coal mined and no washing is necessary. Belle Ayr has approximately 330.7 million tons of reserves. The reserve base at Belle Ayr will sustain projected production for approximately 13 years. Several hundred million tons of surface mineable un-leased federal coal adjoins the mine's property and could be leased to extend the mine's life. Belle Ayr has the advantage of shipping its coal on both of the major western railroads, the Burlington Northern Santa Fe Railroad and the Union Pacific Railroad.



☰ back to top

Eagle Butte Mine

The Eagle Butte mine, located approximately eight miles north of Gillette, Wyoming, extracts coal from the Roland and Smith Seams, which total 100 feet thick, using the truck-and-shovel mining method. Eagle Butte shipped 24.1 million tons of coal in 2005. The mine sells 100% of the raw coal mined and no washing is necessary. Eagle Butte has approximately 346.1 million tons of reserves. The reserves will sustain projected production levels for 14 years. Several hundred million tons of surface mineable un-leased federal coal adjoins the western boundary of the mine property. We have applied to lease approximately 240 million tons of this coal. The Lease By Application (LBA) sale is scheduled for 2007. If we prevail in the bidding process and obtain this lease, we will be able

to extend the mine's life by approximately an additional 10 years, based on the mine's 2005 rate of production. Coal from Eagle Butte is shipped on the Burlington Northern Santa Fe Railroad to power plants located throughout the Midwest and the South.



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Re: The Investigation and)	Second Set of Discovery Requests
Suspension of Tariff Sheets Filed by)	Of the RUC Staff -
Public Service Company of Colorado	)	Served On Public Service Company
With Advice Letter No. 1454 – Electric)	
Docket No. 06S-234EG	)	July 14, 2006

DISCOVERY REQUEST NO. RUC2-10(b):

With respect to Mr. Imbler's Direct Testimony, page 8, line 20 through page 9 line 13, please provide the following:

b. For each coal plant, the period of time that it was affected by the coal delivery problems, the amount of coal that was not delivered to the plant as expected, the percentage of that plant's annual usage, the number of megawatt hours (MWh) lost due to the coal delivery problems and the cost of the replacement fuel or power that was used to make up for the lost MWh;

RESPONSE:

See Attachment RUC2-10b. The MWh's that could not be generated by base load coal fired generation due to coal delivery problems were replaced with purchased power and the consumption of alternative fuels in order to conserve coal inventories. The number of MWh's replaced in 2005 was 728,806, and 204,804 in YTD 2006. The cost of replacement fuels and power was \$37.3 million in 2005 and \$11.6 million YTD 2006. Costs attributable to replacement coal and power were allocated to Comanche, Pawnee, Cherokee, Arapahoe and Valmont in 2005 and Comanche and Pawnee in 2006.

Sponsor: Pat Panzarino
2006

Response Date: July 27,

Attachment 22

Docket 07A-447E

WG Cross Answer Testimony

ABC News

Endangered Pacific islet facing mass relocation

Posted Thu Jun 5, 2008 10:55am AEST

Updated Thu Jun 5, 2008 11:32am AEST

World Environment Day is an opportunity for a diverse spread of countries, companies and communities to look at their environmental problems and try to find some solutions.

But for the tiny Pacific nation of Kiribati, the environmental outlook is so grim the President, Anote Tong, has issued an appeal for Australia and other countries for help.

He desperately needs assistance to provide a home for his people, amid predictions that global warming will render the low-lying islands uninhabitable in 50 years.

Kiribati is made up of three groups of coral atolls. The population stands at 90,000 on land which is barely two metres above sea level.

On a map it may look small, but Kiribati has some big problems. With rising sea levels and erosion, many communities have already relocated.

President Tong is watching on with sadness.

"Every second week when we get the high tides, there's always reports of erosion," he said.

"To plan for the day when you no longer have a country is indeed painful but I think we have to do that."

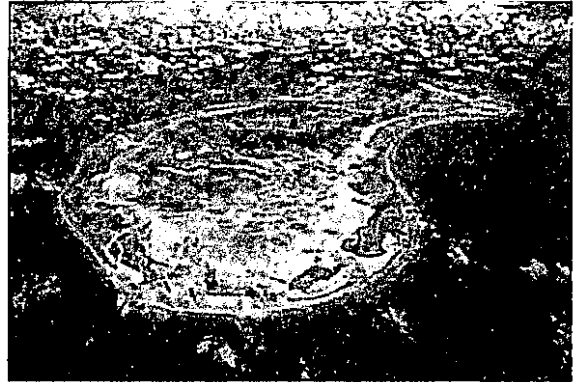
President Tong has just arrived in New Zealand for talks with Prime Minister Helen Clark.

Prime Minister Clark says there is already a small community from Kiribati in New Zealand.

"If the worst happens no doubt they would be bigger," she said.

He is appealing to her and other leaders to help relocate his people. He says water supplies are being contaminated by the rising sea and time is running out.

"There's a number of scenarios. We are programming for the worst possible case scenario - 50, 60 years. And so we have to think about that," he said.



Global warming will render the low-lying islands of Kiribati uninhabitable in 50 years. (AAP, file photo)

- **Video:** [Watch NZ correspondent Kerri Ritchie's story for Midday Report. \(ABC News\)](#)
- **Audio:** [Sinking Kiribati makes plea for aid \(AM\)](#)

Global challenge

The President says his people have no options left - they must leave.

"We have to find the next highest spot. At the moment there's only the coconut trees. But I think we have to [leave], in fact I've appealed to the international community that we need to address this challenge," he said.

"It's a challenge, I think not for any one single country but I think for the whole global community.

"Maybe we have a few decades to address this but we believe that we should begin to address the issue yesterday."

President Tong has called upon other countries to follow New Zealand's lead.

"New Zealand offers more opportunity but I think from our own perspective ... it is important that if our people were to relocate, they should do so as trained, skilled people rather than people coming here and adding to the problems, their own problems and to the national problems," he said.

President Tong says migration must start now, on World Environment Day, so the people of Kiribati can find a new home and a new future.

"We want to deny it, we don't want to believe this, and our people don't want to believe this. But it gives us a deep sense of frustration. What do we do?" he asked.

"If you want to lead the people you must always be in the position to provide options, and so this is the option that we are suggesting, in the belief that if it is going to happen we will have at least addressed part of the problem and it won't be such a severe one to address when the time finally comes."

-Adapted from a story originally aired on AM on Thursday, June 5.

Tags: [relief-and-aid-organisations](#), [environment](#), [environmental-management](#), [erosion](#), [foreign-affairs](#), [world-politics](#), [australia](#), [kiribati](#), [new-zealand](#)

RESOLUTION NO. 1793

**A RESOLUTION OF THE GOLDEN CITY COUNCIL SETTING
CITY-WIDE SUSTAINABILITY GOALS FOR THE NEXT TEN
YEARS**

WHEREAS, the Golden City Council recognizes the current threat to our environment and resolved in early 2007 to place Golden in the forefront of global communities willing to do their part to help make a difference, and

WHEREAS, the City Council recognizes that local government actions taken to reduce greenhouse gas emissions and increase energy efficiency provide multiple local benefits by decreasing air pollution, creating jobs, reducing energy expenditures, and saving money for the local government, its businesses, and its residents, and

WHEREAS, Golden defines *sustainability* as an attempt to meet the needs of the present without compromising the ability of future generations to meet their own needs, and

WHEREAS, Council wants to begin an aggressive ten-year program with clear goals, and

WHEREAS, since February of this year more than 60 citizens have devoted countless hours to refining Council's original proposed goals and suggesting programs for achieving them.

THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF GOLDEN, COLORADO:

Section 1. Golden intends to meet the following Sustainability Goals:

Improve the energy efficiency and reduce the environmental impact of new and existing buildings in Golden. Specifically:

- 1) Ensure that within ten years 90% of all new buildings constructed in Golden each year are built to green building standards.
- 2) Ensure that within ten years 50% of all remodels in Golden each year are built to green building standards.
- 3) Revise Golden's land use code to reflect the best practices in sustainability once every five years.

b. Improve the economic health of our community by increasing business opportunities focused on energy efficiency and renewable energy and by reducing the energy costs of all Golden businesses. Specifically:

- 1) Encourage local businesses to improve their sustainability and profitability by developing their offerings of sustainable products and services and their use of sustainable products, services, and practices.
- 2) Create/Attract new jobs and businesses in the sustainability sectors.

Increase our community's awareness of and encourage commitment to actively take part in sustainability as a public value that supports cultural, economic and environmental health for all citizens. Specifically:

- 1) Create effective, ongoing two-way communication that informs, educates and inspires community involvement in city-wide sustainability efforts; and

- 2) Support the Community Working Groups in crafting community action plans that effectively foster sustainable behavior.
- d. Increase our community's energy efficiency and our use of renewable sources of energy. Specifically:
 - 1) Reduce the City of Golden's energy usage by 25% and increase to 50% the proportion of its energy use derived from renewable energy sources within ten years (25 x 50 in 10).
 - 2) Reduce overall community energy usage in Golden by 20% and increase to 20% the proportion of its energy use derived from renewable energy sources within ten years (20 x 20 x 10).
- e. Reduce our solid waste stream contribution through the expanded use of recycling programs, waste diversion programs, and other tools. Specifically:
 - 1) Reduce our solid waste stream contribution by 25% in ten years.
- f. Increase the ability of Golden residents and visitors to travel to and through Golden using alternative transportation. Specifically:
 - 1) Reduce the communities total Vehicle Miles Traveled by 15% in ten years.
- g. Ensure that Golden sustains a clean, stable water supply into the future, Specifically:
 - 1) Reduce Golden's per capita water use by 15% in 5 years.
 - 2) Maintain better than regulatory water quality from water treatment plant to end-user.
 - 3) Increase the efficiency of the water delivery system.
 - 4) Improve the health of the ecosystem associated with the Golden waterways.

Adopted this ____ day of _____, 2007

Charles J. Baroch
Mayor

ATTEST:

Susan M. Brooks, MMC
City Clerk

Approved as to form:
