

Exhibit No.: _____

Issues: Surrebuttal to Testimony of Mantel,
Wood and Fisher

Witness: Michael Blaha

Sponsoring party: StopAquila.org

Type of Exhibit: Affidavit with exhibits

Case No: EA-2006-0309

Date Prepared: October 14, 2005

Exhibit No.:
Issues: *South Harper Peaking Facility*
Witness: *Michael C. Blaha*
Sponsoring Party: *Calpine Central, L.P.*
Type of Exhibit: *Direct Testimony*
Case No.: *ER-2005-0436*
Date Prepared: *October 14, 2005*

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI**

CASE NO. ER-2005-0436

**In the Matter of Aquila, Inc. d/b/a Aquila Networks-MPS and
Aquila Networks-L&P for Authority to File Tariffs Increasing
Electric Rates for the Service Provided to Customers in
the Aquila Networks-MPS and Aquila-L&P Area**

Submitted on behalf of CALPINE CENTRAL, L.P.

Direct Testimony

Of

MICHAEL C. BLAHA

October 14, 2005

1 **DIRECT TESTIMONY OF**

2 **MICHAEL C. BLAHA**

3 **CALPINE CENTRAL, L.P.**

4 **CASE NO. ER-2005-0436**

5 **Q. Please state your name, business affiliation and address.**

6 A. My name is Michael C. Blaha. I am Director, Price Forecasting for Calpine
7 Corporation ("Calpine"). My business address is 717 Texas Avenue, Suite 1000, Houston,
8 Texas 77002.

9 **Q. Please describe you business experience and educational background.**

10 A. I became an employee of Calpine in October 2000. In my current position I am
11 responsible for the long term forecast of electric prices throughout the North American
12 Interconnect Network. I provide energy price forecasts, capacity price forecasts and market
13 fundamentals in support of Calpine's investment decisions, structured transactions and the
14 long-term forward curves. Prior to joining Calpine, I co-founded Altos Management Partners
15 and prepared market assessments to support investment decisions and financing due
16 diligence for various clients, including Calpine. Prior to Altos, I was under contract to
17 PanEnergy in connection with its expansion into the merchant electric business. I assisted
18 PanEnergy with and through its merger with Duke Energy Corp. From 1990 to 1995, I
19 worked for CSW Energy, the independent power producer of Central and South West Corp.
20 (CSW). During this tenure I participated in the development of CSW Energy's first six
21 cogeneration ventures in four states. I also managed the asset optimization efforts on these
22 facilities. From 1989 to 1990, I was the assistant project manager of the proposed 2,000 MW
23 Thousand Springs coal facility in Nevada, that was being developed by a subsidiary of Sierra

1 Pacific Resources, Inc. From 1982 to 1989, I worked for CSW Services, the management
2 arm of Central and South West, in Financial Planning. My duties included managing the
3 system generation expansion plans of the Central and Southwest system of four electric
4 operating companies across Texas, Oklahoma, Louisiana and Arkansas. In all, I have more
5 than twenty-three years of experience in utility and merchant power business. I received a
6 B.S. degree in Chemistry and Computer Science from Iowa State University in 1979. I
7 received an M.B.A. from Texas A&M University in 1981, while concurrently completing all
8 my course work for a Ph.D. in Physical Chemistry. I am a member of Phi Lambda Upsilon,
9 which is the National Chemical Honorary Society.

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

11 A. While this rate case involves multiple complex issues, my comments will focus
12 primarily on three main points. First, I will discuss the transfer pricing of the turbines
13 utilized in the Harper Peaking Facility ("Harper") facility. Second, I will discuss the cost
14 differential associated with the dispatch of the higher heat rate units at Harper as opposed to
15 combined cycle facilities such as Calpine's Aries plant. Additionally, I will address Aquila's
16 failure to consider multiple market alternatives prior to constructing Harper.

17 **Q. Are you sponsoring any appendices?**

18 A. Yes, I am sponsoring several appendices. Appendix A is a PowerPoint slide show
19 illustrating Harper's cost ineffectiveness relative to the Aires facility. Appendix B was used
20 to develop the figures illustrated in Appendix A. Appendix C is a chart describing the
21 relative start charges and associated costs for dispatching a combined cycle facility.
22 Appendix D is a visual illustration regarding previous offers made by Calpine relative to
23 Harper and the "Project X" placeholder described by Aquila.

1 **Q. Please describe the relationship of Calpine and Aquila regarding Calpine's Aries**
2 **facility.**

3 A. Calpine and Aquila were previously equity partners in the ownership of the Aries
4 plant. The partnership was dissolved on March 26, 2004, at which time a contract remained
5 in place for the offtake of the facility. On June 1, 2005, that contract expired and currently
6 there is no relationship, contractual or otherwise, as Calpine is the sole owner of Aries.

7 **Q. What is your understanding of the reason(s) for constructing Harper?**

8 A. Calpine was a previous partner with Aquila in the Aries facility. As Calpine has been
9 an active participant in multiple regulatory proceedings across the country, Calpine is
10 familiar with the attempts by utilities to unburden their balance sheets of non-regulated assets
11 by placing them into rate base and converting them into regulated assets. The combustion
12 turbines deployed at Harper were previously designated as non-regulated assets. There are
13 two choices available to produce cash flow. The generator can either be sold or used in a
14 new generation facility. At current market conditions, the sale would most likely be at a loss.
15 Thus, Aquila chose to transfer its cost into a regulated asset to get a guaranteed full recovery
16 of its investment.

17 **Q. Can you enumerate the potential impact on Aquila and its ratepayers of the**
18 **transfer of Harper's combustion turbines from non-regulated to regulated assets?**

19 A. Yes, according to a widely used trade publication, *Gas Turbine World*, in 2001-2002
20 the price of a D5A (the type of combustion turbines utilized at Harper) was \$25.8 million per
21 turbine for a total of \$77.4 million for the three units, which is approximately the amount that
22 Aquila has requested in its rate case. In 2004-2005, the price was \$18.7 million for a total of
23 \$56.1 million for the three units. If Aquila had sold the turbines, Aquila would have incurred

1 a loss of \$21 million. When faced with a significant write-down for capital equipment, it is
2 not difficult to decipher why Aquila chose to construct Harper. Therefore, Aquila ratepayers
3 are being asked to subsidize the non-regulated unit in the amount of more than \$20 million
4 for the turbines alone.

5 **Q. Aquila needs generation capability to support its peak and reserve margins, why**
6 **not Harper?**

7 A. Aquila has two basic alternatives to meeting its need for generation facilities. Aquila
8 can either build or contract. The preferred choice should be the most cost effective
9 alternative. From the ratepayer's perspective, the most cost effective alternative has the least
10 impact on increasing rates. Harper fails the cost effectiveness test on two points. First, when
11 Aquila decided to build a peaking plant at Harper, Aquila could have purchased the
12 combustion turbines for \$56.1 instead of transferring the turbines at cost from its unregulated
13 affiliate. But more importantly, Aquila could have used the current favorable market
14 conditions to purchase power and obtain even more cost effective electricity.

15 **Q. What kind of savings could the ratepayer realize if Aquila had decided to**
16 **purchase rather than build?**

17 A. Again, this is a difficult question to answer since Harper is a peaking unit while Aries
18 is a cycling unit. The published heat rate for the combustion turbines utilized at Harper is
19 10,922 BTU/kWh (HHV). The actual average heat rate at Aries during 2004 was 7,721
20 BTU/kWh (HHV). The design full load heat rate at Aries during 2004 is 7,160 BTU/kWh
21 (HHV). The 10,922 BTU/kWh at Harper does not include start fuel nor degradation due to
22 wear and tear or partial loadings. Energy produced from Aries is at least forty (40) percent
23 cheaper than energy from Harper. Using Aries annual average heat rate and assuming a

1 natural gas price of \$7.50 per MMBtu this equates to a savings of \$28 per MWh or .28 cents
2 per kWh. Currently natural gas prices are close to \$10 per MMBtu which equates to a
3 savings of \$37 per MWh or 0.37 cents per kWh.

4 **Q. Has Calpine made offers to Aquila that would allow them to realize these**
5 **savings?**

6 A. Yes. Calpine has made several offers over the last three years. Unfortunately,
7 Calpine has not received any significant feedback from Aquila as to the perceived
8 deficiencies in any of the proposals.

9 **Q. Would any of these proposals have resulted in lower costs for ratepayers as**
10 **opposed to construction of Harper?**

11 A. Yes. In fact all of the proposals that Calpine has submitted would have resulted in
12 lower costs to ratepayers when compared to both the Harper construction costs as well as the
13 "Project X" PPA that Aquila has previously pointed to in this proceeding (see Appendix D).

14 **Q. Earlier in your testimony, you stated that the Aries contract expired. What were**
15 **the risks associated with letting the Aries contract expire?**

16 A. By not having additional capacity and energy available on a firm basis, Aquila has
17 subjected its ratepayers to significant risk. On more than one occasion since the Aries
18 contract expired in June 2005, Aquila has procured power from as far away as south
19 Louisiana in order to meet its load demands. The additional costs transmission and other
20 associated with importing power to the Aquila system will be passed on to ratepayers.
21 Additionally, if the transmission capacity had not been available, then it is possible that
22 system instability and/or service interruptions could have occurred.

1 **Q. Aquila has cited the high start costs at Aries as one reason for building the South**
2 **Harper Peaking Facility instead of contracting for capacity from Aries. How much**
3 **merit does this argument have?**

4 A. This argument has little merit. Although the cost of starting a combined cycle power
5 plant such as Aries is higher than the starting a simple cycle plant such as South Harper, the
6 Aries power plant is so much more efficient than the South Harper Peaking Facility that the
7 difference in start costs are recovered in less than 2 hours of running Aries versus Harper (see
8 Appendix C).

9 **Q. In your opinion, what would have been the most prudent course of action for**
10 **Aquila regarding the Harper facility?**

11 A. Setting aside the legal and zoning issues and all of the accompanying appeals and
12 costs, it is fair to say that there were multiple market alternatives to the construction of a new
13 facility. Aquila could have entered into long term market purchases that would have been
14 able to meet its current load demands without having to take on the additional risks and
15 capital costs associated with construction of a new facility. Furthermore, entering into these
16 contracts would have resulted in lower costs for ratepayers and would have eliminated the
17 risk and uncertainty taken on by Aquila.

18 **Q. Can you summarize your testimony?**

19 A. From the ratepayer's perspective, Harper is not currently the most cost effective
20 system expansion alternative available to Aquila. Rather, Harper was constructed to recoup
21 Aquila's investment in non-regulated assets by transferring the non-regulated investment into
22 rate base and consequently obligating the ratepayer the backstop. There currently exist other
23 market based alternatives with lower heat rates but similar capacity costs as Harper. Clearly,

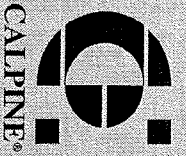
1 the most cost effective alternative for Aquila's ratepayers is any alternative with lower
2 capacity prices and lower production. Currently, the most cost effective sources of
3 generation are purchases from the existing excess generation fleet.

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

5 **A. Yes.**

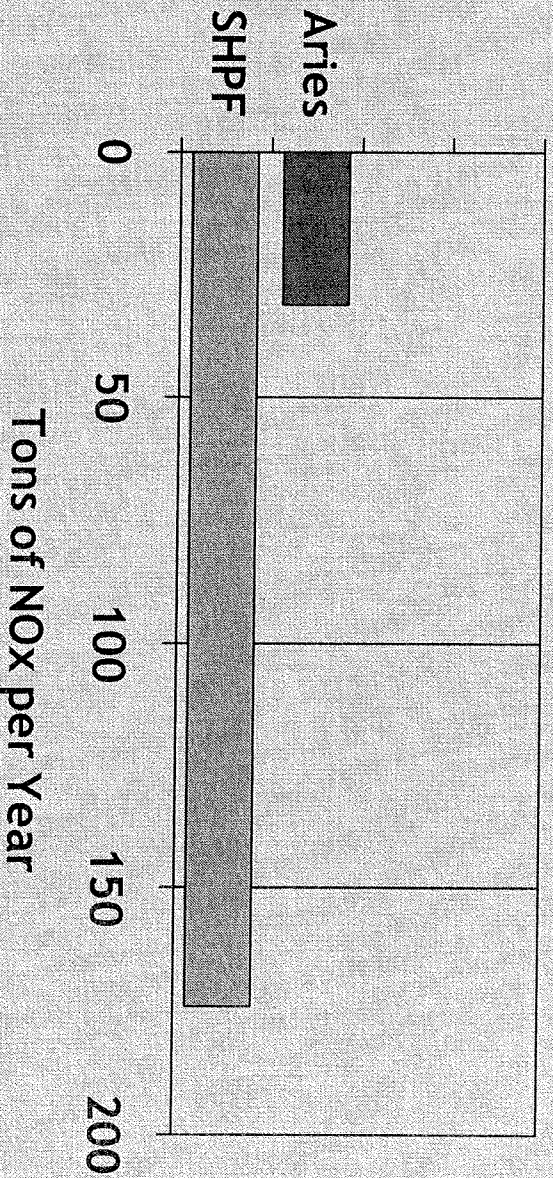
Meeting with MPSC Staff

June 15, 2005



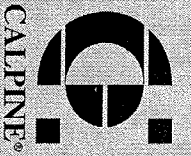
ARIES WILL PRODUCE THE SAME AMOUNT OF ELECTRICITY WITH SIGNIFICANTLY LESS POLLUTION COMPARED TO SIMPLE CYCLE PEAKING PLANT

Pollution Reduction

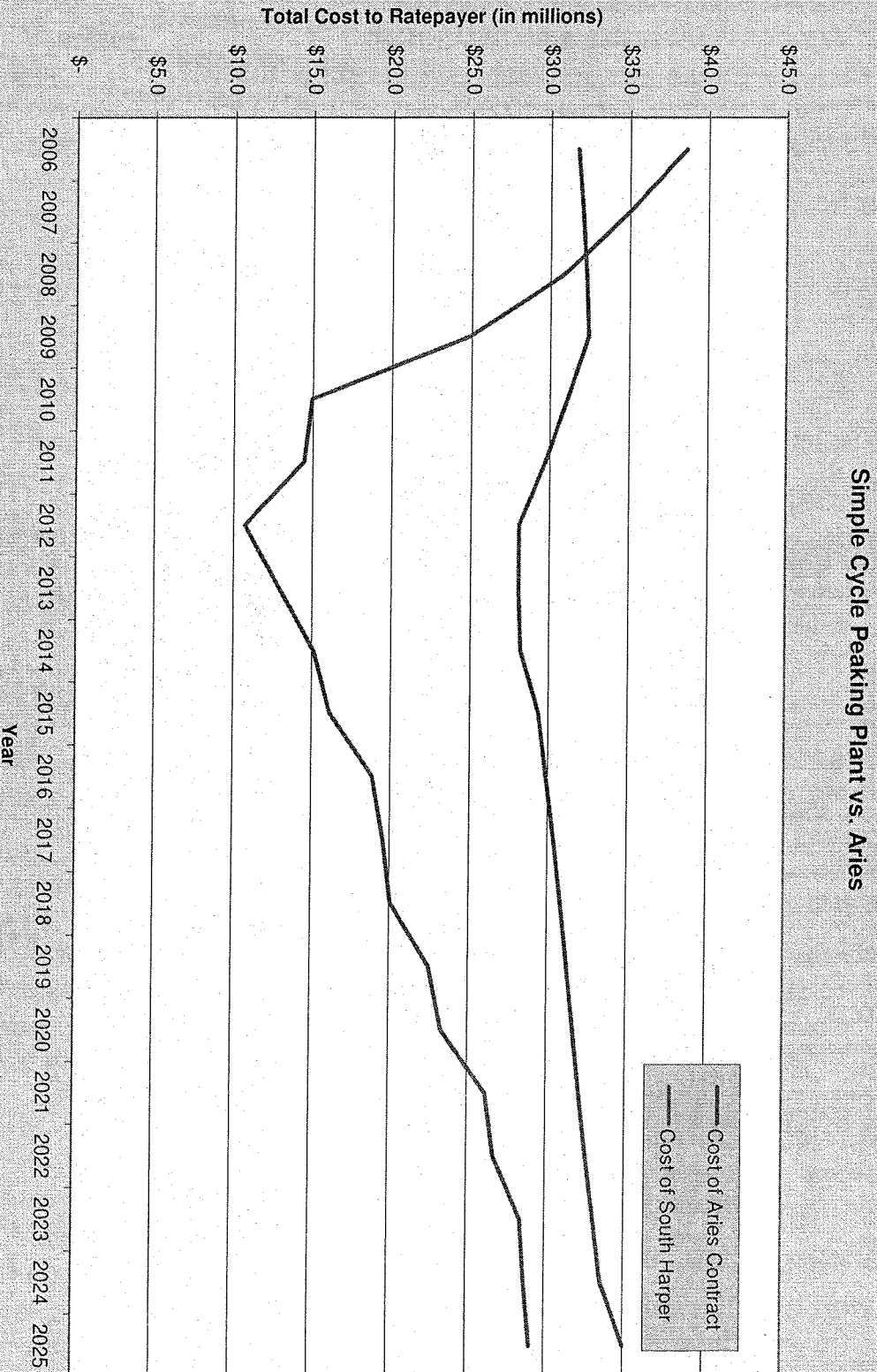


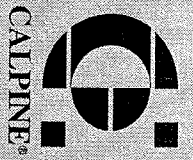
A Simple cycle peaker would produce 173 Tons per year (over 5 times) more emissions than Aries generating the same amount of energy*.

*assumes that SHPF has an annual capacity factor of 10%



COSTS TO RATE PAYERS OF A SIMPLE CYCLE PEAKING PLANT COMPARED TO ARIES - ANNUALIZED

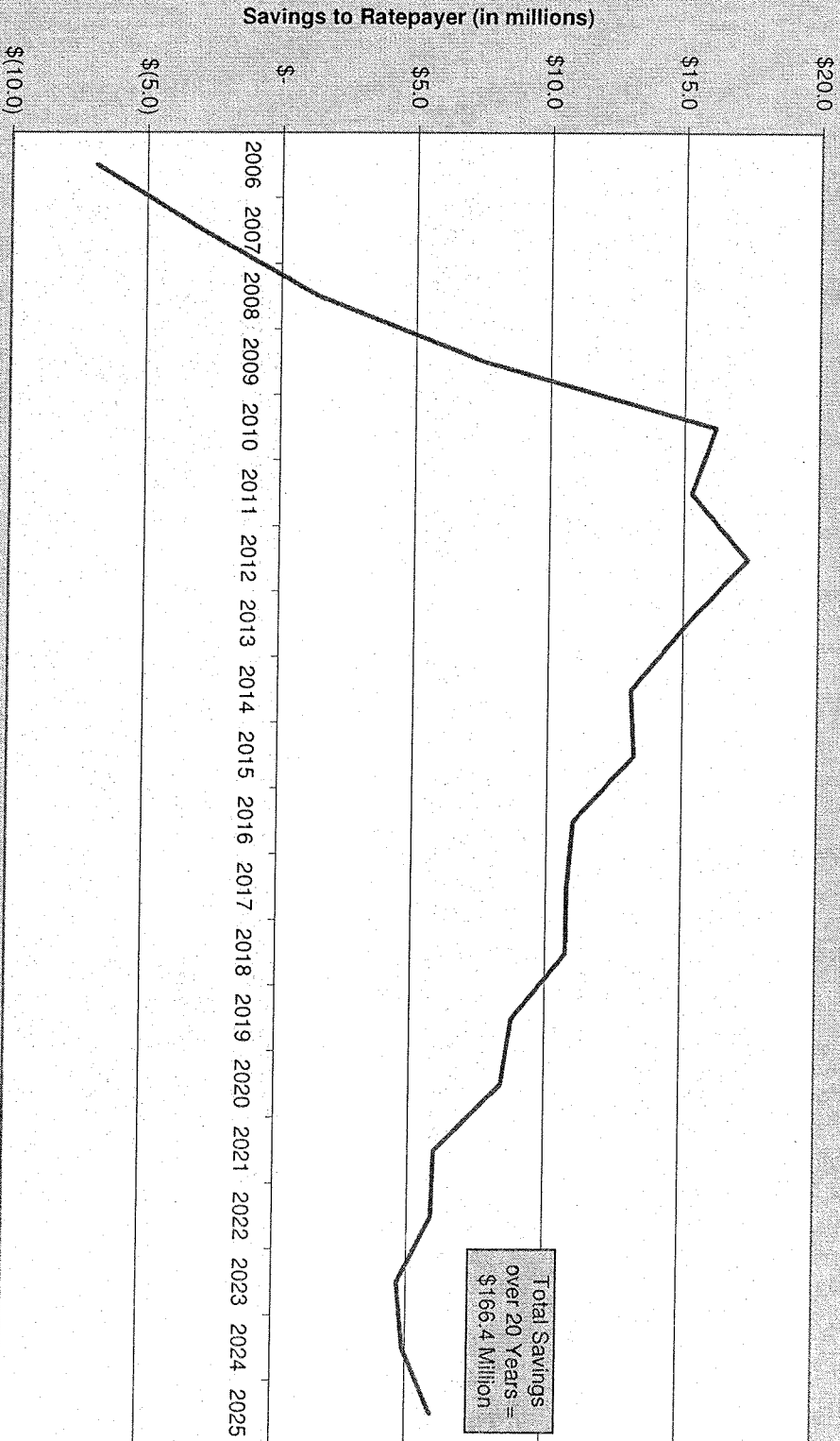




SAVINGS TO RATE PAYERS BY CONTRACTING WITH ARIES - ANNUALIZED

Appendix A

Savings to Ratepayer by Contracting with Aries instead of a Simple Cycle Peaking Plant



Year