

**Utilicorp United  
Request for Proposals for Power Supply  
Bid Evaluations  
26888**

**Highly Confidential & Privileged  
FINAL REPORT**

**November 28, 2001**

## **Appendix C**

**Realtime™ Modeling Forecasts  
Provided by Utilicorp**

### Market Purchase Costs for Missouri \$/MWh

	Summer		Off Season		Max
	On Peak	Off Peak	On Peak	Off Peak	
	<u>Avg.</u>	<u>Avg.</u>	<u>Avg.</u>	<u>Avg.</u>	
2001	\$ 49.95	\$ 27.92	\$ 38.62	\$ 27.51	\$ 873.10
2002	\$ 37.00	\$ 24.35	\$ 29.32	\$ 23.91	\$ 689.80
2003	\$ 31.89	\$ 23.64	\$ 25.79	\$ 22.23	\$ 573.50
2004	\$ 33.81	\$ 24.12	\$ 29.39	\$ 22.92	\$ 496.60
2005	\$ 42.97	\$ 22.34	\$ 33.07	\$ 21.61	\$ 894.50
2006	\$ 44.54	\$ 23.62	\$ 31.00	\$ 22.87	\$ 1,277.20
2007	\$ 50.28	\$ 26.86	\$ 29.83	\$ 24.79	\$ 2,275.50
2008	\$ 58.83	\$ 37.74	\$ 30.82	\$ 26.68	\$ 3,276.00
2009	\$ 48.73	\$ 61.48	\$ 31.90	\$ 27.23	\$ 3,276.00
2010	\$ 62.28	\$ 46.69	\$ 32.42	\$ 24.53	\$ 3,276.00
2011	\$ 90.91	\$ 24.31	\$ 36.39	\$ 24.33	\$ 3,276.00
2012	\$ 79.84	\$ 34.14	\$ 31.86	\$ 25.97	\$ 3,276.00
2013	\$ 79.60	\$ 40.18	\$ 34.97	\$ 30.39	\$ 3,276.00
2014	\$ 76.53	\$ 49.67	\$ 38.58	\$ 33.59	\$ 3,276.00
2015	\$ 58.33	\$ 71.13	\$ 40.96	\$ 35.04	\$ 3,276.00
2016	\$ 105.27	\$ 31.09	\$ 48.76	\$ 32.88	\$ 3,276.00
2017	\$ 108.09	\$ 35.12	\$ 49.79	\$ 36.64	\$ 3,276.00
2018	\$ 101.54	\$ 48.40	\$ 49.17	\$ 40.79	\$ 3,276.00
2019	\$ 98.61	\$ 51.44	\$ 50.45	\$ 43.60	\$ 3,276.00
2020	\$ 71.03	\$ 82.10	\$ 53.30	\$ 46.22	\$ 3,276.00
2021	\$ 93.59	\$ 66.44	\$ 59.61	\$ 44.86	\$ 3,276.00
2022	\$ 87.30	\$ 43.00	\$ 66.03	\$ 44.13	\$ 3,276.00

**AQUILA, INC.  
CASE NO. ER-2004-0034  
MISSOURI PUBLIC SERVICE COMMISSION  
DATA REQUEST NO. MPSC-372**

**HIGHLY CONFIDENTIAL**

**DATE OF REQUEST:** October 8, 2003  
**DATE RECEIVED:** October 8, 2003  
**DATE DUE:** October 28, 2003  
**REQUESTOR:** Cary Featherstone  
**BRIEF DESCRIPTION:** Annual Forecasts Electric Power Costs - MPS

**QUESTION:**

Please provide the yearly forecasts of future electric power prices utilized by 1). Aquila and/or Missouri Public Service, St. Joseph Light & Power and/or any of Aquila's regulated divisions starting in the year 1996, and continuing through the current forecasts of power prices used by the Company for each of the above years.

**RESPONSE:**

For the task of future resource planning forecasts of future electric power prices are not prepared as an annual task but are created as close to the time of any analysis in which they are needed.

Previous price sources included Research Data International market clearing price forecasts. Other public and purchased sources are used before future electric prices are created.

In 2002 Aquila Networks started to create forward market prices based on regional production modeling.

Attached is a spreadsheet table that shows our most recent estimated seasonal average prices for Missouri.

**ATTACHMENT:** 372 MissouriMarketPrices.xls

**ANSWERED BY:** *Jerry Boehm*

**HC**

**Market Purchase Costs for Missouri - \$/MW-hr****Summer\*****Off Season**

	<b>On-Peak</b>	<b>Off-Peak</b>	<b>On-Peak</b>	<b>Off-Peak</b>	
	<u>Avg</u>	<u>Avg</u>	<u>Avg</u>	<u>Avg</u>	<u>Max</u>
2002	\$ 55.67	\$ 14.02	\$ 18.41	\$ 11.35	\$ 290.54
2003	\$ 40.90	\$ 19.87	\$ 25.69	\$ 19.02	\$ 151.02
2004	\$ 47.58	\$ 24.37	\$ 29.25	\$ 21.33	\$ 137.48
2005	\$ 61.03	\$ 27.91	\$ 35.48	\$ 24.10	\$ 164.96
2006	\$ 66.72	\$ 28.71	\$ 35.80	\$ 25.17	\$ 190.76
2007	\$ 71.26	\$ 29.34	\$ 35.08	\$ 25.33	\$ 251.30
2008	\$ 81.03	\$ 31.08	\$ 36.65	\$ 26.33	\$ 291.94
2009	\$ 89.34	\$ 32.13	\$ 38.04	\$ 27.41	\$ 304.52
2010	\$ 99.26	\$ 33.66	\$ 39.58	\$ 28.67	\$ 367.33
2011	\$ 106.25	\$ 34.94	\$ 39.90	\$ 29.47	\$ 446.75
2012	\$ 105.79	\$ 35.95	\$ 40.08	\$ 30.92	\$ 470.87
2013	\$ 106.95	\$ 35.87	\$ 40.31	\$ 31.16	\$ 540.04
2014	\$ 110.83	\$ 37.29	\$ 40.48	\$ 32.13	\$ 567.78
2015	\$ 112.57	\$ 37.83	\$ 41.22	\$ 33.10	\$ 568.73
2016	\$ 114.74	\$ 36.92	\$ 39.42	\$ 32.48	\$ 569.71
2017	\$ 118.42	\$ 38.95	\$ 40.37	\$ 33.97	\$ 545.17
2018	\$ 113.47	\$ 37.50	\$ 39.73	\$ 33.39	\$ 627.37
2019	\$ 113.85	\$ 38.55	\$ 40.64	\$ 34.84	\$ 617.25

**HC**

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**Highly Confidential**

**Interview of Aquila, Inc.**

**Corporate Personnel**

**Keith Stamm**

**Tom Fleener**

**Neil Shumway**

**Dated: September 12, 2003**

**AQUILA, INC.**  
**CASE NO. ER-2004-0034**  
**MISSOURI PUBLIC SERVICE COMMISSION**  
**DATA REQUEST NO. MPSC-550**

[REDACTED]

**DATE OF REQUEST:** November 17, 2003

**DATE RECEIVED:** November 17, 2003

**DATE DUE:** December 7, 2003

**REQUESTOR:** Mark Oligschlaeger

**BRIEF DESCRIPTION:** Aries Power Plant

**QUESTION:**

Please review the attached set of notes taken by Staff of Aquila representations made at the meeting/conference call between Staff and Aquila representatives on Sept. 12, 2003, concerning the Aries Power Plant. Please make any revisions or additions necessary to accurately convey what Mr. Stamm and other Aquila representatives stated during the meeting.

**RESPONSE:**

Please see the attached.

**ATTACHMENT:**

Electronically marked up copy of notes provided by Staff. Please note that the information contained therein is Highly Confidential.

**ANSWERED BY:**

Keith Stamm and Tom Fleener

**SIGNATURE OF RESPONDENT**

**AQUILA, INC.**  
**CASE NO. ER-2004-0034**  
**HIGHLY CONFIDENTIAL**

**MEETING NOTES: of interview/conference call with Aquila Personnel  
Relating to the Aries Power Project**

Attending from Aquila (KC): Keith Stamm, Tom Fleener, Neil Shumway, Denny Williams, Gary Clemens

Attending from Missouri Commission Staff (KC): Cary Featherstone, Steve Traxler  
Attending from Missouri Commission Staff (JC): Bob Schallenberg, Lena Mantle, Mark Oligschlaeger, Steve Dottheim, Nathan Williams

Date: September 12, 2003

Time: 10:00 am to 12:30 pm.

Location: Aquila's Raytown office facilities

**NOTE: all discussion at this meeting was deemed to be Highly Confidential in nature.**

Keith Stamm – Chief Operating Officer of Aquila  
Tom Fleener – Aquila Merchant Services – handling negotiations with Calpine  
Neal Shumway – Aquila Merchant – Senior Vice President Corporate Development Group

On September 10, 2003, two days prior to the meeting, Aquila provided a handout for the Sept. 12 presentation.

Calpine Corporation, is the operating partner of Aries Power Project (Aries) through an Operating Agreement between the Aries partners -- MEPPH. Aries is owned by the MEPPH partners each having 50% ownership interest with each having a MEPPH subsidiary of MEPPH – Aquila and MEPPH – Calpine. Under its partnership arrangements with Calpine, Aquila currently has the responsibility to market all available power generated at Aries other the power that is under contract with Aquila Merchant's affiliate company Aquila's Missouri Public Service. The marketing subsidiary is ~~a 50%~~ 100% owned by a subsidiary of Aquila Merchant and Calpine Services, Inc. The marketing subsidiary markets ~~the excess~~ capacity to other entities ~~and supply the natural gas associated with these sales on behalf of the partnership.~~

There was some discussion initially that the marketing subsidiary was responsible for the natural gas supply of the power generated for the Missouri Public Service purchased power agreement. There was confusion on this point and the Company indicated they would get back with Staff on this point. (Aquila later stated, through other meetings Staff had with Aquila employees responsible for administrating the purchased power agreement on behalf of Missouri Public Service, that the regulated entity (MPS) was responsible for its own supply of natural gas.)



Aquila stated that neither the Aries marketing subsidiary nor the Aries partners had anything to do with the natural gas procurement for the MPS power contract.

Aries is a 585 megawatt combined cycle unit, with nominal heat rate of 7,000. If natural gas prices were at \$2.00 per MCF, the toll agreement and toll payments would be around \$ 21 million.

million. [There is no correlation between natural gas prices and the tolling payment. The tolling payment is more similar to a demand charge rather than an energy charge. At a heat rate of 7,000 Btu/Kwh and a gas price of \$3.00/MMBtu the energy charge would be \$21 per Mwh. The tolling payment is made regardless of whether the unit is dispatched or not.]

During discussion with Aquila, Staff asked about bullet point in the handout presentation prepared by Aquila—top bullet at page 7 stated “IRP- Staff concluded the MEPPH PPA (purchased power agreement) was reasonable compared to other options, including self-build.” Staff inquired as to the support / basis for such statement. Aquila could not remember exactly but thought it was a statement in a memorandum from Staff. Gary Clemens said he would check on the source. [NOTE: it turns out Aquila believes the source was the Staff memorandum in the 1999 case filed by Aquila seeking approval of the purchased power agreement]

~~Aries and Calpine are~~MEPPH is now in default of the Aries construction financing. The original loan amount was ~~\$195~~\$270 million; it now has a balance of \$190 million as the lenders/ financial institutions recently collected \$5 million in a “sweep” of Aries revenues available from the Aries ~~partners revenue account.~~ The construction loan has never been converted to permanent financing.

~~The Aries partnership has never been profitable.~~ Neither of the partners—Aquila or Calpine — ~~have—~~has ever received any ~~payments~~distributions from the revenues generated by Aries sale of power.

Aquila and Calpine have different views on how to cure the Aries default. Calpine wants to jointly meet the lenders’ demands and convert to permanent financing of the unit. Aquila disagrees, because it does not want to be in the merchant business long-term. It would require Aquila to stay on the hook for the tolling payments plus put in another \$15-20 million now to convert to permanent financing, and Aquila does not have this cash right now and is unwilling to put more money into the Aries project—Aquila is getting out of the merchant power business.

There is an Aquila merchant toll agreement associated with the Aries unit, requiring payments of \$4.3 million annually through May of 2005 and then \$23 million annually (Aquila share) to the lending banks starting in 2005 through no later than 2022. The toll agreement is valued (nominally) at \$400 million over the life of the project for Aquila’s share (\$23 million times 18 years of the toll). (There are minor toll payments required prior to 2005 based on the excess capacity above the amount under contract with Missouri Public Service.) This toll agreement is now viewed by Aquila as “underwater,” meaning that the expected market value of Aries power is less than the toll amounts.

Calpine is more optimistic about the future market value of Aries power.

Aquila ~~now wishes to exit~~ is exiting the merchant business, and focusing on regulated utility services. Calpine's corporate objectives are very different, as they ~~wish to be a 100%~~ are a merchant company ~~power generation company~~. These different corporate goals have caused tension in the Aries partnership, as each party effectively has a "veto" over the other; i.e., partnership decisions must be unanimous.

When asked if Aries was good power plant, Aquila indicated that it had some early problems in during start-up phase but the plant had improved since then and had been operating very well.

Aquila has examined the option of having MPS replace MEPPH in the current Aries operating lease. However, there may be a regulatory issue in Missouri with how the Aries unit is treated for rate purposes at the end of the lease. Such an arrangement would also require the approval of Calpine and the project lenders.

Aquila has also examined the option of purchasing Calpine's share of the Aries unit at fair market value, and including the unit in rate base. However, there may be regulatory issues in Missouri concerning how any premium paid for Aries is handled for rate purposes. In any case, Calpine is ~~reluctant~~ unwilling to sell its share of the Aries unit at what Aquila considers a reasonable price.

Aquila believes that an Aries original cost is \$310 million.

Calpine will not sell its share of the Aries unit below cost; i.e., its embedded investment, operating costs and fuel expense. Calpine had indicated to Aquila that it wants \$110 million for its share of the Aries unit, with Aquila also having to pay \$60 million to pay off the banks to get loans current. Plus, whoever takes over the unit, will still be responsible for the toll payments. This is viewed as too expensive an asking price for Aries by Aquila. ~~In fact,~~ Aquila ~~believes~~ feels that the current market value of the Aries unit is less than its book value. Aquila is willing to "pay" to get out of the Aries tolling agreement.

Aquila views that power prices in the wholesale market will go up "eventually" from current levels, but it is less "bullish" on this point than Calpine. Calpine is more optimistic than Aquila concerning future power prices. Calpine is in the independent power market business, ~~that is all they have as way of business~~. Calpine's business plan is based on the power market business. They do not have utility business to fall back on. Calpine presents its business plans to lenders and continue to raise capital for their business projects. Calpine's sole business is the marketing of power in the wholesale market. Part of Calpine's presentation to the lenders for additional capital is Calpine's belief that power market prices will continue to raise—they are more aggressive about these increases in power market prices than Aquila. While Aquila believes that the power market prices will go up in the future, Aquila is less optimistic than Calpine that market prices will go up as fast.

The preferred course of action by Aquila at this time is to sell its share of the Aries unit to Calpine, to ~~escape the~~ terminate its toll agreement and avoid having to pay the lenders back

~~payments to get current. If Aquila does sell to cure the existing default. As part of its sale of its share of the Aries unit, Aquila would no longer be responsible for the marketing of Aries power.~~

Any deal with Calpine for sale of Aquila's share of the Aries unit ~~would~~ could involve other non-Aries factors, such as continued access to certain constrained transmission ties.

Aquila indicated that it would be willing to pay Calpine some cash in addition to some other assets they have that Calpine is interested in. This additional property ~~relates~~ may relate to some gas assets that Aquila has in Texas. Aquila would be willing to pay Calpine to forego any interest in Aries in the immediate future. For this payment, Calpine would assume all of the liabilities relating to the tolling payments.

Aquila did indicate that it wouldn't rule out the possibility that it could re-acquire Aries in the future at better terms. Aquila believes that it has to "step" away from the power project now and see what happens in the future. The Company believes there may be some ~~problem in marketing~~ limitations as to where the power from Aries ~~by Calpine could be~~ because of ~~marketed~~ (because of potential transmission issues).

**Note: There are many parts of the above meeting notes that are highly confidential and should not be included in public testimony.**

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**Highly Confidential**

**Interview of Aquila Merchant**

**Nonregulated Operations  
Personnel**

**Max Sherman**

**Dated: October 29, 2003**

**AQUILA, INC.**  
**CASE NO. ER-2004-0034**  
**MISSOURI PUBLIC SERVICE COMMISSION**  
**DATA REQUEST NO. MPSC-549**

**DATE OF REQUEST:** November 17, 2003

**DATE RECEIVED:** November 17, 2003

**DATE DUE:** December 7, 2003

**REQUESTOR:** Mark Oligschlaeger

**BRIEF DESCRIPTION:** Aries Power Plant

**QUESTION:**

Please review the attached set of notes taken by Staff of Aquila representations made at the meeting between Staff and Aquila representatives on Oct. 29, 2003, concerning the Aries Power Plant. Please make any revisions or additions necessary to accurately convey what Mr. Sherman stated during the meeting.

**RESPONSE:** The corrected notes are attached (black line provided).

**ATTACHMENT:** Corrected notes.

**ANSWERED BY:** Max Sherman

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**SIGNATURE OF RESPONDENT**

**AQUILA, INC.**  
**CASE NO. ER-2004-0034**

**MEETING NOTES: of interview of Aquila Merchant Personnel**

Attending from Aquila: Max Sherman, Becky Sandring, ~~Brogan~~ and Brogan Sullivan

Attending from Missouri Commission Staff: Cary Featherstone, Mark Oligschlaeger

Location: Aquila Corporate Headquarters – 20 West 9<sup>th</sup>, downtown Kansas City, MO

Date: October 29, 2003

Time: 9:30 am to 1:00 pm

(Note: References to "Aquila" generically refer to both the current organization and organization known as "UtiliCorp United" prior to the name change to Aquila in 2002. References to the merchant operations of Aquila will be specifically referred to as "Aquila Merchant.")

Max Sherman is currently working as a consultant/~~independent contractor~~ for Aquila, assisting in the current rate proceeding. ~~He was recently~~ has been working as an independent contractor employed by through Tyr Engineering Energy, out of Overland Park, Ks for approximately two months. Mr. Sherman began working for Aquila in May 1996, and worked for Aquila Merchant the entire time he was employed by the corporation. He left Aquila in November 2002.

From May 1996 ~~to~~ through November 1998 he was a Power Marketing Director for Aquila, generally responsible for the Southwest Power Pool region. In late ~~November~~ December 1998, when Mr. Sherman began working on Aries related matters, his title was Senior Director of Origination for MEPPH. In December 15, 1998, he was named the Project Manager for the Aries construction-project. He continued in this ~~postrole~~ until January 2000 and was project manager for about 13 months. During this general time period, Mr. Sherman reported to John Hall for about a month then after that ~~to he reported~~ V. J. Horgan, President of Merchant Energy Partners (MEP).

Ms. V. J. Horgan reported to Harvey Padaewer until his departure and the end of 1998 ~~first of 1999~~, then to Ed Mills. Mr. Padewer, until his departure. They both reported directly to the Aquila directors Bob Green (this is identified in Data Request No. 301). (See response to Data Request No. MPSC-559). Mr. Mills reported to Mr. Padewer, and subsequently to Charles K. Dempster.

In September 1999, Mr. Sherman was promoted to Vice President, and was subsequently responsible for development of power projects in the eastern half of country. He left Aquila as result of Aquila's decision to shut down merchant operations.

Mr. Sherman received a call from John Hall in early December 1998 on what the requirements should be for it would take to be a project manager of a combined cycle development project. Aries Power Project. Discussions on the requirements were held with Middle of December he worked what a project manager would be and discussed with Mr. Hall and Ms. Horgan. Later in the month At end of discussion he was offered and accepted the assignment had the job of project manager for what became the Aries project.

Mr. Sherman's duties as Aries Project Manager was were to participate and assist coordinate the effort to win the award Request For Proposal (RFP) bid for capacity from Missouri Public Service, for supply of power and energy in connection with a MPS Request for Proposal (RFP), and then get the team to execute the plans necessary to get the plant into construction the plant. His duties did not include any financing responsibilities; Mr. Joe Gocke there was someone on the team that had the financing duties and responsibilities, his name was Joe Gocke. Aries was financed with cash on hand from the balance sheet during his tenure as Project Manager. The construction financing of the unit plant was not completed until after he left the project.

The project was planned scheduled to start construction work in fall calendar year 1999, after beginning with permitting and other development activities were completed. The Air permit was issued in August 1999. The Combustion turbine contract was executed in July 1999. The Engineering, Procurement and Construction (EPC) contract ( was executed with Black & Veatch) under contract by in September 1999. Black and Veatch had awarded the steam turbine and heat recovery steam generators before September 1999. The Aries ground-breaking ceremony was held in late September 1999.

Aries was available for dispatch operating in simple cycle configuration on June 1, 2001 with two combustion turbines operating for the summer peak season 2001 of 2001; and available for dispatch in combined cycle operations configuration on February 27, 2002.

The reason Mr. Sherman left the Aries project because Aquila desired that he support the merchant generating fleet development effort.

was that the management structure of the project changed once Calpine was brought on as a partner and as construction manager of the project in January 2000. A partner The reason Calpine was brought on was because in because, from the start, it was the intent for Aquila Merchant's intent to sell a portion half of the Aries project's equity to a partner to mitigate ownership and operating risks and improve equity risk in the unit. Calpine also had more construction management experience than Aquila Merchant had, and more experience operating combined cycle units. Calpine is one of the largest operators in the country of combined cycle plants using "F-plant" in the country combustion turbines ("F-plant" refers to the size and technological class of is the model of Westinghouse combustion turbine, typically ~160 MW size). Aquila approached Calpine to be a partner in the Aries unit, not the other way around. Aquila received a premium, or "developers

fee," from Calpine when it purchased half the equity in MEPP. Entered into the partnership arrangement, so Aquila could recognize some of the value already created in relation to the Aries unit.

Calpine started in January 2000 to provide construction management and oversight of the EPC contractor Black & Veach. Aries was a "turn key" project.

Siemens Westinghouse Power Corporation (SWPC) supplied the manufactured two combustion turbines used by the project. SWPC They provided technical field technical assistance to support erection and commissioning of the combustion turbines, with Black & Veach oversight.

A Japanese firm, Toshiba, manufactured and supplied the steam turbine.

When Mr. Sherman became involved with the Aries project, the Aquila Merchant bid to Missouri Public Service (MPS) had already been submitted. Frank DeBacker, then of UtiliCorp Power Supply representing MPS, was seeking improvements in the bids of the qualifying bidders for MPS capacity. Mr. Frank DeBacker's would improve MPS's bargaining position by advising all but the low bidders way of doing business was to come back and say "you are not the lowest bidder—can you give improve your offer better price?" Mr. Sherman was involved in drafting some "revised" pricing letters during negotiations that served to lower the power price Aquila Merchant was offering in response to the MPS' RFP. He's not sure whether such letters still exist – he will check (they do exist). There should be 3 or 4 of these letters. These letters identified the terms and conditions of the proposal.

Mr. Sherman had been involved in the initial Aquila Merchant response to the MPS RFP (June 1998), which was based upon the Batesville, MS combined cycle unit. Aquila Merchant provided information on transmission path. That bid was premised upon Aquila Merchant supplying transmission service to get the power to MPS, but Mr. Sherman believes that MPS was expected to reimburse Aquila Merchant for the transmission. Mr. Sherman does not know why the Batesville proposal was not acceptable to MPS. Batesville was Aquila Merchant's first long term power purchase from merchant generating project. Aries was Aquila Merchant's first development project the second.

Aquila Merchant had a "tolling" arrangement with the Batesville generating facility, which was then owned by LS Power. The Batesville unit was a combined cycle with a designated as three by "3" on 1" configuration (3 "trains" of one combustion turbines each with a single on one steam turbine generator). LS Power had a tolling agreement with Aquila Merchant for Batesville Unit 3 (one of the three a-third Batesville (x) capacity "trains") for a 15-year 15-year term period of time. Aquila would supply the fuel. A "tolling arrangement" provides for the power purchaser buying entity to supply all the fuel for at the power plant (or unit or "train"), and have then take the rights to the plant (or unit or "train" output for a period of time. The tolling arrangement is nothing more than "unit power purchase" with but buyer supplies the fuel supplied by the purchaser — in



the case of Aries, natural gas. The buyer of the power has fuel supply obligation and responsibility ~~responsibility of fuel supply~~. Tolling arrangements can be beneficial in that the buyer of the plant output can better control the cost of the fuel necessary to generate the power, while ~~relieving~~ relieving the plant owner of the responsibility of plant fuel supply. In relation to the Aries unit, MPS indicated upfront they wanted responsibility for fuel procurement for the unit. Owners of generation like "tolls" because they don't have to worry about fuel supply; they just have to operate the unit.

A "unit power purchase" is a purchase of capacity with the owner of the plant having the s fuel supply obligation.

L S Power sold the Batesville combined cycle unit to another party ~~some one else~~ (not Aquila Merchant).

The Batesville proposal by Aquila Merchant provided for a transmission path right acquired by Aquila Merchant with the cost responsibility on Missouri Public Service – regulated. [Sherman to confirm – it does]

The Aries partners own the natural gas pipeline lateral connecting ~~running into~~ the plant site to two interstate pipelines. The issue of pipeline ownership was never discussed with MPS during Mr. Sherman's tenure on the project. Mr. Sherman made the decision on ownership of the pipeline lateral ownership, because ~~he did not want to have the opportunity to force the gas pipelines to compete for the project's business~~. If a gas pipeline company ~~to owned that section of the pipeline lateral~~, it that would eliminate potential competition in supplying the Aries unit with natural gas.

The ~~transportation~~ pipeline lateral connecting the plant to the two natural gas pipeline – Panhandle Eastern and Williams—is roughly 7-and-¼ to 7-and ½ miles long.

The Aries Purchased Power Agreement (PPA) with MPS provided for damages to be paid to MPS if the simple-cycle unit was not ready for operation in the summer of 2001 – this was the key in-service date, because MPS really needed that capacity. Aquila MPS had two capacity agreements that expired May 31, 2001. If the combined cycle unit did not meet its planned in-service date of the end of January 2002, the contract allowed MEPPH to supply power from substitute sources. In fact, the Aries unit did not meet its original commercial operations date of January 2002 in combined cycle operations until February 2002. Aquila Merchant's responsibility as the marketing group of for the MEPPH partnership was to get power from another source to supply to MPS so the capacity payments would start up.

Aquila Merchant operated under several different names-- Aquila Power when Mr. Sherman joined the company in May 1996; Aquila Energy; Aquila Energy Marketing; Aquila Merchant. Aquila Merchant Energy Partners (AMEP) is was a business unit in Aquila Merchant, it and was subsequently renamed Aquila Capacity Services.

The ~~power purchase power~~ agreement set the prices of capacity and energy, including and established an ~~variable~~ O & M (operation and maintenance) fee factor. The agreement also provided established a set heat rate with and capacity availability guarantees. (Refer to the contract in Data Request No. 384).

Cass County is the "legal" owner of the Aries unit. However, it has no role in running Aries; MEPPH has "full use and enjoyment" of the facility. Mr. Sherman was involved in the decision to bring in Cass County. Chapter 100 bond deals offer property tax abatements, an incentive offered in Missouri for siting of manufacturing plants, was the key factor influencing the Cass County ownership decision. Under Chapter 100 bonds, in return for locating the plant in a certain area, ~~and allowing the taxing authority ownership of the plant,~~ the taxing authority/nominal owner does not charge property taxes on the plant. The plant operator does pay to the taxing authority amounts entitled "Payments in Lieu of Taxes" (PILOT), which are less than what property taxes would be if the plant operator actually owned the plant. This is considered to be an economic development program. The taxing authority, such as Cass County, gets additional investment and infrastructure businesses to develop in the county and the associated construction and plant O&M provide jobs. The Aries unit was the first Missouri electric power plant project Mr. Sherman knows of to take advantage of the Chapter 100 tax abatement ~~structure deal.~~

Aquila Merchant has done several generating plants projects using these "property tax abatements," because it saves a lot of money and helps make the projects competitive in a deregulated wholesale market.

The real benefit of this ownership arrangement is the reduction in taxes paid (difference between property taxes and PILOT amount). This property tax savings was not reflected in Aquila Merchant's bid/ price to supply MPS power, as the Cass County ownership arrangement came after the contract between MPS and Aries Merchant partners was negotiated and signed. The reduced tax payments associated with Cass County ownership of Aries benefited Aquila Merchant exclusively. Similarly, project cost increases such as the gas pipeline lateral accrue to Aquila Merchant and not to MPS.

Mr. Sherman believes that MEPPH (MEP Pleasant Hill) is obligated to can-buy back the Aries unit from Cass County for a nominal amount when the bonds are fully amortized, and possibly sooner if the bonds are paid off early (though he is not sure of the time frame in which MEPPH is allowed to do this). If ownership does revert to MEPPH, then property taxes will become payable without abatement from that point forward.

The limited cost overrun provisions in the MEPPH-MPS Aries purchased power contract applied only to the combustion turbines. These provisions were necessary because the demand for combustion turbines outstripped the supply at that time. The power price spike in the summer of 1998 was a signal to the market for everybody to build peaking units. The third week of June 1998 market saw \$5,000 per megawatt hour prices. This price was perceived to reflect shortages of supply with respect to demand. Supply of power needed to will eventually catch up with demand for power. This caused great

demand for combustion turbines, and there were only four manufacturers of these machines. ~~There were essentially only four manufactures of combustion turbines:~~ Siemens Westinghouse Power Corporation (SWPC); General Electric (GE); ~~Saye Bar~~Asea Brown Boveri (ABB) and MichiganMitsubishi Heavy Industries (MHI). At the time Aquila Merchant bought the combustion turbines for Aries, MHI was not offering their "F" class combustion turbines to the U.S. market.

Aquila Merchant ~~committed to purchase~~obtained 12 or more ~~G~~ combustion Turbines during this period (starting in 2000) to build unregulated peakers to take advantage of the wholesale marketplace (this was after the Aries construction decision had been made and the plant was under construction). The reason for Aquila Merchant's acquisition of the ~~G~~ combustion Turbines was its belief that, given expected future power market conditions, it would be less expensive to produce power from generating units you control than to have to buy power in the power marketplace. Mr. Sherman indicated that the last place a merchant company wanted to be was to have to supply power through long-term contracts and be at the mercy of a volatile power market and have to buy power to supply those contracts. Most of the ~~G~~ combustion Turbines Aquila Merchant bought have now been sold or committed to other projects; 3 are now in storage. Mr. Sherman was unsure of the plans for these 3 units.

Aquila Merchant used ~~thea~~ Black-Scholes "spread option" model to predict the contribution margin from owning and controlling generation assets. They also used the "Black-Scholes" model to obtain forward market power price projections. The Black-Scholes model took into account the volatility of gas and purchased power prices. The resulting estimates of margins, gas costs and purchased power prices were at a point in time; they were not annual forecasts. These estimates could change daily.

Mr. Sherman's long-term perception of purchased power prices is that the forecast should equal the cost of natural gas multiplied by "market heat rate." He believes that the market heat rate will decline over time due to introduction of more efficient generating equipment; therefore, if natural gas prices are fixed, purchased power prices will decline over the long-term. Even if this prediction was accurate, Aquila Merchant still wanted to own ~~G~~ combustion Turbines as peakers for strategic reasons - to capture the expected volatility in the power markets. Aquila Merchant believed that price spikes of the summer of 1998 would occur again and it wanted to be ready to take full advantage of any opportunities to sell power to those that needed it.

For major business ventures, such as Aquila Merchant's purchase of ~~G~~ combustion Turbines to build power plants to supply ~~enter into~~ the wholesale power market, Aquila's "Capital Deployment" ~~g~~Group (CDG) made the ultimate decision. If the business case for a venture showed it was cost-justified, the case was then taken to the CDG. The CDG members included ~~consisted of~~ Keith Stamm, Ed Mills, Bruce Reed (of Aquila - Merchant), and others. Bob Green might attend their meetings (and might have been part of the CDG). No minutes were kept of CDG meetings, though there were formal presentations and might have been sign-off sheets at these meetings.

The CDG did not exist at the time of the decision to build the Aries unit. That decision was first made by Bob Green, and ultimately approved by Aquila's Board. Both MPS and Aquila Merchant made presentations to Bob Green regarding the Aries decision; the Aquila Merchant presentation was made January 5, 1999 to inform Mr. Green of the status of the project and that Aquila Merchant had not heard from the regulated side — MPS — on the results of the RFP process for some time (Data Request No. 301). Aquila Merchant told Bob Green that it hadn't received the award of the purchased power agreement with MPS and Aquila Merchant was incurring costs to preserve the option to develop the project with the in-service date required by MPS ~~secure the contract~~. Aquila Merchant was on a critical timetable because they had to make some decisions relating to equipment vendors and others having some key dates to meet for contracts. Aquila Merchant had just a short period of time for meeting these dates and needed decisions on the project. ~~Aquila Merchant could not move forward with the project until had a firm commitment on supplying power to MPS.~~ Aquila Merchant would not build Aries without the power agreement with MPS (Both presentations have been supplied in responses to Staff data requests.) Because Aquila Merchant was going to have to spend a significant amount of money just to keep the Aries option open in January 1999, the main purpose of the Aquila Merchant presentation to Bob Green was to let Mr. Green know of that fact, and the necessity to make a decision soon. Aquila Merchant did not ask Bob Green to make a decision at that January 1999 presentation — that choice had to be made strictly on the regulated side (though Bob Green at that time was also the head of Aquila's regulated side). Mr. Sherman's perception is that MPS and Aquila Merchant being part of the same corporate family made the situation worse for Aquila Merchant — if there was a "tie" between the other bidder, Mr. Sherman believed Aquila Merchant would lose the contract with MPS because of fear of regulators' scrutiny of an affiliated transaction.

If Aquila Merchant had not won the MPS power supply contract, Aries would not have been built. Aries was not going to be built "on spec." The business plan for Aries depended on a purchase agreement with MPS the first ~~five~~ four years of operations. The capacity payments from MPS would cover a portion of the plant's fixed costs, and in turn ~~This would enable Aquila Merchant (and a future partner) to obtain construction and hopefully permanent financing for the project. the Aries partners to get some of the up front money/costs for the generating unit through the contract.~~

Aquila Merchant was hopeful that it could retain MPS as a customer beyond 2005, because the project was located inside the MPS system, would therefore be directly interconnected with MPS, and might avoid transmission service charges that projects outside MPS may incur to supply the MPS load. ~~any time the customer is responsible for the fuel supply to a unit, it gives the plant operator more an opportunity to do deals.~~ However, the business plan analysis of Aries did not assume MPS would be a customer beyond 2005; it assumed market prices of power would support Aries after the MPS contract expired.

Changes were made to the initial Aries design to try to obtain more capacity — to increase Aquila Merchant's and the Aries partners' ability to profit from selling peak power over

the MPS capacity levels. Any of these sales would be for the Aries partners to share in. The assumed size of the unit increased from 500 MW to a potential maximum of 603 MW. (The final size of the unit was 585 MW.)

Aquila Merchant's bid in the latter part of 1998 for the MPS supply contract assumed that the Aries plant site would be used; in fact, any winning bidder would have used that site — MPS stated their belief that specified that the site was available for purchase by the winning bidder from its present owner. However, while MPS owned the substation adjoining the plant site, they did not own the actual property on which the Aries unit was to be located. So, the Aquila Merchant bid was contingent upon MPS Aquila Merchant's successful acquisition of the land on which Aries was to be sited.

Mr. Sherman is aware of some discussion of an Aries II unit. If built, it could be a small combined cycle unit, or a Combustion Turbine peaking plant — there is not enough land available at the Aries site for a duplicate of Aries I.

**Highly Confidential**

**Interview of Aquila, Inc.**

**Regulated Operations Personnel**

**Terry Hedrick**

**Dated: November 14, 2003**

**AQUILA, INC.**  
**CASE NO. ER-2004-0034**  
**MISSOURI PUBLIC SERVICE COMMISSION**  
**DATA REQUEST NO. MPSC-616.1**

**DATE OF REQUEST:** December 7, 2003  
**DATE RECEIVED:** December 7, 2003  
**DATE DUE:** December 27, 2003  
**REQUESTOR:** Mark Oligschlaeger  
**BRIEF DESCRIPTION:** NA

**QUESTION:**

Failed to include attachment to Staff Data Request No. 616 Please review the attached set of notes taken by Staff of Aquila representations made at the meeting between Staff and Aquila representatives on November 14, 2003 concerning the current MPS RFP for power. Please make any revisions or additions necessary to accurately convey what Mr. Hedrick or Mr. Williams stated during the meeting.

**RESPONSE:**  
(see attachment)

**ATTACHMENT:**  
Word document MPSC0616 hedrick mtg notes

**ANSWERED BY:**  
Terry Hedrick

**SIGNATURE OF RESPONDENT**

**AQUILA, INC.**  
**CASE NO. ER-2004-0034**

**MEETING NOTES: of interview of Aquila personnel relating to current MPS capacity needs**

Attending from Aquila: Terry Hedrick, Denny Williams  
Attending from MPSC Staff: Cary Featherstone, Mark Oligschlaeger  
Date: November 14, 2003  
Time: 9:45 am to 10:30 am  
Location: Aquila's Raytown Office Facilities

Mr. Hedrick is Generation Services Manager, and he reports to Mr. Glenn Keefe, Electric Operations VP – Missouri. His previous title was Director of Generation Services. Mr. Hedrick's Aquila experience is entirely on the regulated side. Generation Services is a two-person group that, among other things, issues responses to Aquila's electric division Request for Proposals (RFPs) for supply of capacity and energy. When an RFP is issued, Generation Services develops a "self-build" scenario that is consistent with the load profile of the requesting entity. Generation Services, in its bids, specifies the equipment and the costs necessary to meet the Aquila affiliate's need for power. Aquila's Energy Services group provides the load profiles of the capacity and energy needs to all bidders, including Generation Services, as part of the RFP material. There is an opportunity for questions by the interested bidders through a pre-bid RFP meeting that was set up in the last round of RFPs.

Internally, Generation Services is treated as just another bidder when it responds to an RFP. Mr. Hedrick became aware of the most recent Missouri Public Service RFP over the internet. Mr. Williams stated that he was not aware of any code of conduct in existence that defined how Aquila should handle Generation Service's bids. However, there are internal procedures in effect that cover MPS' handling of affiliated responses to RFPs.

Mr. Hedrick was asked to explain the Company's response to Staff Data Request No. 387. Mr. Hedrick recounted the sequence of events covered in that response: first, Aquila's West Plains – Colorado division issued an RFP for power; then, second, its Missouri-Kansas divisions issued a combined RFP (Missouri was later separated from Kansas, and had its own RFP). Generation Services responded to all three RFPs with self-build bids.

Mr. Hedrick was asked whether Aquila's regulated side had considered meeting MPS' power needs through an Aries II unit, to be built at the Aries site. Mr. Hedrick said no, that the regulated side had no rights to the Aries land and doesn't own the land. Another problem is that regulated and non-regulated units cannot be sited together at an EWG location.

The Aries II project identified in Data Request No. 387 was building three CTs on land already owned by Aquila –MPS that is the substation next to the existing Aries unit. That land is too small for a combined cycle unit. They could put three CTs there, but it would be very tight. Mr.



Hedrick said that the Aries substation site was not the best site currently being considered, though.

Mr. Hedrick indicated that the current preferred location for a regulated unit to serve MPS load is at Lone Jack, MO. The Lone Jack site looks like a good fit for meeting MPS' load growth, and is superior to other potential sites in the areas of transmission, siting and air permitting. However, Aquila does not currently own the land at the Lone Jack site. They are considering putting the three CTs currently owned by Aquila at this location or using LM 6000 jet engines.

Mr. Hedrick said that another advantage for the Lone Jack site was it was close to AEC's (Associated Electric Cooperative) Holden site. AEC currently has three peaking units operating at the Holden site. The Lone Jack site being considered by Aquila is 15 to 20 miles from the Holden site. There could be some advantages for both AEC and Aquila if Aquila built generating units there. Aquila and AEC may be able to share equipment, and could provide backup and help each other if the units go out of service.

Mr. Hedrick said that a pipeline for natural gas deliveries would have to be constructed at any of the sites, even the Aries site. MPS does not own the existing pipeline at Aries and could not obtain access to it, and would have to build a pipeline to serve the three CTs if they were built at Aries substation site.

Mr. Hedrick was asked whether combustion turbines (CTs) are the only self-build option being considered to meet MPS' RFP. Mr. Hedrick responded that, so far, MPS' Jerry Boehm has indicated that his need is for peaking capacity from CTs. If coal baseload units were to be considered, Generation Services would have to put together a "conceptual" self-build estimate, because very few utilities are building baseload units by themselves.

Mr. Hedrick was asked what the lead-time would be for MPS to add various kinds of generating capacity to its system. He responded that he had been asked the same question in a data request, but Mr. Williams then stated that the response had not yet been provided to the Staff. Mr. Hedrick stated the lead-time for CTs was one year for engineering and construction with air permitting and fuel rating activities the driver, not construction activities. Mr. Williams thought the data request indicated that the lead time for CTs was 9 to 18 months. Mr. Hedrick did not disagree with this time frame. Mr. Hedrick stated that for combined cycle units, the lead-time depends upon equipment availability - is a HRSG (heat recovery steam generator) available, for example? Mr. Williams thought the response to the data request for combined cycle units was approximately 24 months. For baseload coal units, the lead-time is four to seven years.

There are three CTs now in storage at Pleasant Hill (actually, the turbine generators for these units are at Pleasant Hill, with the other parts - balance of plant- stored at Richards Gebaur base). These CTs are Siemens Westinghouse 501D5A models, and are officially rated at 120 MW each ISO- at sea level 59 degrees F with humidity 60% (rated at 105 MW each at MPS' elevation). The CTs are approximately one year old (shipped sometime in November 2002) and they were shipped directly to Pleasant Hill for storage from Westinghouse manufacture facilities. Mr. Williams stated that the CTs were originally owned by Aquila Merchant, but have been transferred to Aquila Corporate in a special subsidiary set up for property tax purposes. The CTs

were moved out of the Aquila Merchant operation because the merchant function is winding down. Mr. Hedrick and Mr. Williams did not know whether these CTs (originally intended for Aries II) could be transferred to Aquila Corporate without Calpine's prior approval since Calpine was the partner of Aquila for the non-regulated Aries II project. Mr. Hedrick said the three CTs each had Aries II painted on side of units identifying them with that site. These units are the ones identified in the "self-build" option in the response to MPS' current RFP for power.

Generation Service's self-build bid in response to the current MPS RFP is based on the three stored CTs. These CTs would fit well with MPS' current load profile. Mr. Hedrick thought Mr. Boehm would be aware of the CTs inclusion in the self-build bid.

The Aries II project mentioned in the response to Staff DR No. 387 may be equivalent to the Lone Jack project discussed at this meeting.

Mr. Hedrick was asked whether he had an opinion on MPS' current "build vs. buy" decision. Mr. Hedrick responded that, from an engineering perspective, he liked the build option. (It should be noted that Mr. Williams pointed out that Mr. Hedrick had not seen any of the current bid responses that included the purchase of power option -- that was Jerry Boehm's group) Mr. Hedrick believes there is a significant advantage in both owning and operating the generation equipment in developing maintenance expertise. If you control / own the equipment, he believes that there are advantages in the areas of costs, manpower and staffing and dispatch flexibility. He believes that Aquila Networks is proficient in the generation maintenance and reliability areas, and cites the one-time Sibley 3 continual operating availability record as support for this belief.



Non-Proprietary

Greenwood Power Plant

Analysis

Greenwood Power Plant  
units one and two

Computation of purchase basis, less costs to producers.

Table with columns: Date, Lease Payments, Distribution Rate, Annual Contribution, Accumulated Depreciation, Ref Payment From, Rate of Return, Rate Base, Elements, and Salvage. Includes sub-sections for 'First lease - first five years', 'Second lease first five years', 'Second lease second five years', and 'Third lease third five years'. Totals for Grand Lease Total and Grand Rate-Base Total are shown at the bottom.

Grand Lease Total  
Grand Rate-Base Total  
Difference