

Exhibit No.:  
Issue: Combustion Turbines  
Valuation  
Witness: Cary G. Featherstone  
Sponsoring Party: MoPSC Staff  
Type of Exhibit: Surrebuttal Testimony  
Case No.: EO-2005-0156  
Date Testimony Prepared: June 27, 2005

MISSOURI PUBLIC SERVICE COMMISSION

UTILITY SERVICES DIVISION

SURREBUTTAL TESTIMONY

OF

CARY G. FEATHERSTONE

AQUILA, INC.

CASE NO. EO-2005-0156

Jefferson City, Missouri  
June 2005

\*\*Denotes Highly Confidential Information\*\*

**NP**

Exhibit No. 16  
Case No(s). EO-2005-0156  
Date 9-21-05 Rptr. 4F

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

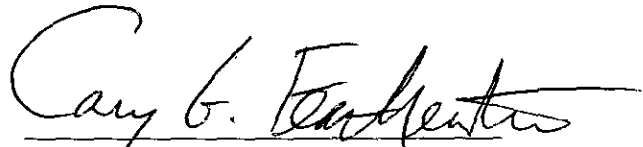
In the Matter of the Application of Aquila,                     )  
Inc., for Authority to Acquire, Sell and                     )  
Lease Back Three Natural Gas-Fired                     )  
Combustion Turbine Power Generation                     )  
Units and Related Improvements to be                     )  
Installed and Operated in the City of                     )  
Peculiar, Missouri                     )

**Case No. EO-2005-0156**

AFFIDAVIT OF CARY G. FEATHERSTONE

STATE OF MISSOURI             )  
   )             ss.  
COUNTY OF COLE             )

Cary G. Featherstone, being of lawful age, on his oath states: that he has participated in the preparation of the following Surrebuttal Testimony in question and answer form, consisting of 9 pages to be presented in the above case; that the answers in the following Surrebuttal Testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true and correct to the best of his knowledge and belief.

  
Cary G. Featherstone

Subscribed and sworn to before me this 27th day of June 2005.

  
Notary



TONI M. CHARLTON  
Notary Public - State of Missouri  
My Commission Expires December 28, 2008  
Cole County  
Commission #04474301

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Surrebuttal Testimony  
Cary G. Featherstone

1           Q.     What estimate has Public Counsel witness Robertson relied on for his  
2 recommendation to the Commission for the value of the three Siemens turbines?

3           A.     At page 81, line 3 of Mr. Robertson's rebuttal testimony, he states that he  
4 believes:

5                     ... that the cost identified in the 2003 GTW Handbook are a more  
6 reasonable estimate of the actual costs that the regulated utility would  
7 have incurred for the combustion turbines had it issued RFPs for the  
8 equipment to be put into service in 2005. Public Counsel believes that  
9 the GTW published prices are a more accurate source for the equipment  
10 costs than the R. W. Beck appraisal given that the appraisal contains  
11 inaccurate costs and conclusions. Furthermore, it is my belief, based on  
12 the market pricing I have reviewed, that had the Company actually issued  
13 competitive bids for the equipment it is possible that the prices it would  
14 have paid may have been significantly less than the GTW Handbook  
15 published prices. Thus, I believe, that the GTW published prices are a  
16 more moderate position that benefits both the shareholder and the  
17 ratepayer.

18          Q.     What is the GTW Handbook?

19          A.     The GTW Handbook is the Gas Turbine World Handbook which is a trade  
20 publication relied on by the utility and merchant industry to identify the market trends for gas  
21 combustion turbines and combined cycle units. The prices identified in this publication are  
22 estimates compiled by the publishers of GTW which allow the industry to make comparisons  
23 between time periods such as from one year to another and pricing comparisons between  
24 manufacturers such as Siemens Westinghouse and General Electric equipment.

25          Q.     Do you believe that pricing from a trade publication can be used for rate making  
26 purposes?

27          A.     No, not if better information such as actual offers, bids or request for proposals  
28 (RFPs), or contracts is available. Public Counsel witness Robertson relies on the value found in  
29 an industry trade publication in the same manner that the Staff believes R. W. Beck (Beck) did

Surrebuttal Testimony  
Cary G. Featherstone

1 when it prepared the estimate that was prefiled with the direct testimony of Aquila witness  
2 Dennis R. Williams as Schedule DRW-1 (HC). Beck relied on an estimate provided by Siemens  
3 Westinghouse in an attempt to develop the fair market value of the combustion turbines, not on  
4 actual offers, bids or contracts. Both recommendations put forth by Public Counsel and Beck are  
5 nothing more than estimates or approximate values for the recommendations proposed be used  
6 to determine the cost for the three Siemens turbines. These estimates do not rise to the level of  
7 actual sales or even offers that is available to make a better determination of the true market  
8 value for these three Siemens turbines.

9 Q. What has the Staff relied on for its recommendation to the Commission for the  
10 value the Siemens turbines?

11 A. At pages 31 through 35 of my rebuttal testimony, I identify several offers that  
12 were made for combustion turbine equipment that Aquila Merchant had for sale during the  
13 summer and fall of 2002. Aquila Merchant offered Kansas City Power and Light (KCPL) and  
14 Black and Veatch, an engineering firm, the three Siemens turbines. In addition Aquila Merchant  
15 also offered to KCPL a combination of up to four combustion turbines manufactured by General  
16 Electric which are model 7EAs. Aquila Merchant offered to sale the three Siemens turbines to  
17 KCPL for \$66,760,000. The price offer to KCPL included the transformers and breakers, which  
18 were separate items that Beck considered in its estimates. The highly confidential pricing for the  
19 General Electric 7EAs appears at page 35 of my rebuttal testimony and also on my highly  
20 confidential Schedule 5-49 attached to my rebuttal testimony.

21 In addition to the offers of sale of the combustion turbines to KCPL and Black and  
22 Veatch, Aquila Merchant actually sold three of the General Electric 7EAs to two non-Aquila  
23 utility entities. Aquila Merchant sold two of the General Electric 7EA turbines for \*\* \_\_\_\_ \*\*

Surrebuttal Testimony  
Cary G. Featherstone

1 million or \*\* \_\_\_\_ \*\* million each and sold the third combustion turbine for \*\* \_\_\_\_ \*\*  
2 million which was substantially below the purchase price that Aquila Merchant paid for those  
3 units when it acquired them in 2002 (See page 15, line 1 of my rebuttal testimony; Source: Data  
4 Request No. 77 in Case No. EO-2005-0156 and Data Request No. 376 in Case  
5 No. ER-2004-0034). The average price that Aquila Merchant sold these three units for was  
6 \*\* \_\_\_\_ \*\* million [\*\* \_\_\_\_ \*\* million plus \*\* \_\_\_\_ \*\* million divided by three]. Using this  
7 average price, MPS could have acquired four of the General Electric 7EAs for approximately  
8 \*\* \_\_\_\_ \*\* million [\*\* \_\_\_\_ \*\* million times four turbines], well under the amount offered to  
9 KCPL for the three Siemens turbines of \$66.8 million, including transformers and breakers and  
10 substantially under the \$68.4 million amount recommended by Beck for the three Siemens  
11 turbines, a price that excluded the transformers and breakers. Three of the four General Electric  
12 turbines were actually sold so that would determine the market value for those turbines.

13 The estimates used by Public Counsel and Beck do not in any way reflect a true market  
14 of a willing buyer negotiating with a willing seller.

15 Q. Are the General Electric turbines comparable to the Siemens turbines?

16 A. While both the General Electric and Siemens generating equipment are  
17 combustion turbines, each of 7EAs are cable of producing 75 megawatts and the Siemens units  
18 are rated at 105 megawatts.

19 Q. What is the market value of an asset?

20 A. The price at which a willing seller would sell and a willing buyer would buy an  
21 item in question, in this case combustion turbines, after an arms-length negotiation would  
22 determine its true market value.

23 Q. Why are offers to sell and actual sales of combustion turbines owned by Aquila

Surrebuttal Testimony  
Cary G. Featherstone

1 Merchant important?

2           A.     The actual sales by Aquila Merchant of the General Electric 7EA turbines provide  
3 a much better valuation for the Siemens Westinghouse combustion turbines than an estimate  
4 taken from the Gas Turbine World trade publication or a budget estimate obtained from Siemens  
5 Westinghouse. Aquila Merchant's offers to sell to KCPL and Black and Veatch also provide a  
6 better source for valuing these combustion turbines. Given Aquila's pending general electric  
7 rate case, Case No. ER-2005-0436, it is likely that if the Commission values the Siemens  
8 combustion turbines in this case, that value will also be used by the Commission in the pending  
9 rate case when it determines customer rates. Once an asset goes into rate base, rates are  
10 generally determined using the values over the life of that asset. Where information from actual  
11 transactions and negotiations is available, estimates should not be relied upon to determine plant  
12 asset values that will be included in the rate base of Aquila Networks MPS and the depreciation  
13 expense for a period of 40 years or more.

14           Actual offers, bids and sales are much better indicators of the true market value that  
15 should be placed on the Siemens turbines.

16           Q.     Do you know how R. W. Beck arrived at its recommendation for the fair market  
17 value of the three Siemens turbines?

18           A.     Beck described in its report attached to Aquila's Application in this case and  
19 to the direct testimony of Dennis R. Williams as Schedule DRW-1 (HC), how it developed  
20 its recommendation. At Section 4.2.2 Replacement Cost, page 4-4 Beck states:

21                   \*\*  
22                   \_\_\_\_\_  
23                   \_\_\_\_\_  
24                   \_\_\_\_\_  
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Beck obtained from Siemens an estimated price of \$24,500,000 for a single Siemens Westinghouse 501D5A combustion turbine. A copy of a Siemens letter to Beck dated July 28, 2004, (attached to this Surrebuttal testimony as Schedule 1) indicates a price of \$24,500,000 for a new Siemens 501D5A Econopac combustion turbine (pricing includes technical field assistance, training, and transportation to the site). This price was for one turbine and had a lead time of 18 months from placement of the order to delivery at the site. The Siemens' letter indicates that this estimate was "budgetary information that (Beck) requested for the Lea County Electric Cooperative project," that "[a]ll pricing and lead time information is to be used for budgetary purposes only and is subject to final management approval and scope review" and that "[p]ricing assumes firm order placed in 2004." The Siemens' estimate Beck relied on for its recommendation to Aquila is as equally flawed as the Public Counsel witness Robertson's use of the Gas Turbine World pricing for recommending be used to value the Siemens turbines being installed at the South Harper facility.

Q. Is Aquila relying on Beck's recommendation for the fair market value of the Siemens turbines?

A. Yes. Although Beck used Siemens' estimate developed for budget purposes only to determine the "replacement costs" of these units in its appraisal, Aquila relied on Beck's estimates as the basis for its recommendation to the Commission for the value of the combustion turbines, which value it has included in rate base in Case No. ER-2004-0436. Beck's adjustments to the Siemens' estimate to arrive at the amount Aquila proposes follows:

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Surrebuttal Testimony  
Cary G. Featherstone

|    |                                   |                                 |
|----|-----------------------------------|---------------------------------|
| 1  | <u>Combustion Turbines</u>        | <u>Replacement Costs</u>        |
| 2  | Siemens Turbines Replacement Cost | \$73,500,000 (3 X \$24,500,000) |
| 3  | <u>Adjustments</u>                |                                 |
| 4  | Warranty                          | (\$2,240,000)                   |
| 5  | Exhaust stacks                    | (\$1,849,200)                   |
| 6  | Multi-Unit purchase               | <u>(\$1,000,000)</u>            |
| 7  | Combustion Turbine Subtotal       | \$68,410,800                    |
| 8  | Transformers and Breakers         | <u>\$2,386,050</u>              |
| 9  | Total Value of Replacement Costs  |                                 |
| 10 | for Combustion Turbines           |                                 |
| 11 | Net of Adjustments                | \$70,796,850                    |

12 Q. What value does Public Counsel witness Robertson propose?

13 A. At page 81 of his rebuttal testimony, Public Counsel witness Robertson states he  
14 used the cost identified in the 2003 Gas Turbine World Handbook of which is an estimate of  
15 \$19.9 million for one Siemens 501D5A combustion turbine. Using this estimate, the amount for  
16 three Siemens turbines being installed at South Harper would be \$59.7 million, substantially  
17 below the \$73.5 million for the Siemens' budget amounts that Beck used for its replacement cost  
18 valuation. Neither the Beck amount nor Public Counsel's reliance on Gas Turbine World  
19 estimates should be used to value the Siemens turbines. While Staff's proposal is to not make a  
20 rate determination in this case, if the Commission decides to do so, the valuation of South  
21 Harper combustion turbines should be based on something more than estimates since the  
22 valuation will affect Aquila's rate base and the costs of this facility over the life of the  
23 generating plant.

24 Q. What value should the Commission place on the Siemens turbines?

Surrebuttal Testimony  
Cary G. Featherstone

1       A.     As indicated in my rebuttal testimony, the Commission should not make a  
2     determination in this case, but should it decide to do so, the only proper valuation that should be  
3     considered is one that rises to an actual offer such as that which Aquila Merchant made to KCPL  
4     or relating to an actual sale/purchase transaction such as what occurred for the General Electric  
5     7EA turbines made to non-affiliated entities of Aquila. Estimates from trade publications or  
6     from a turbine manufacturer that is to be used for budget purposes only, do not give rise to a  
7     determination of the combustion turbine market in the Kansas City region. The Commission  
8     should not give any reliance to either the Public Counsel estimate of the Beck replacement cost  
9     recommendation that Aquila used to value the Siemen turbines.

10       Q.     Can you summarize the various recommendations for the value of the three  
11     turbines?

12       A.     Yes. Staff's recommendations as compared to Mr. Robertson's (Public Counsel)  
13     and Mr. Williams' (Aquila) are as follows:

|  |   |
|--|---|
| KCPL (3) Siemens 501D offered for<br>(includes transformers and breakers)              | \$66.8 million  |
| Actual Sale of (4) General Electric 7EAs<br>(excluding transformers and breakers)      | ** \$__ ** million  |
| Public Counsel recommendation for (3) Siemens<br>(excluding transformers and breakers) | \$59.7 million  |
| Aquila recommendation for Siemens turbines<br>(excluding transformers and breakers)    | \$73.5 million<br>(before adjustments)<br>\$68.4 million<br>(after adjustments) |
| Aquila recommendation for Siemens turbines<br>(including transformers and breakers)    | \$70.8 million  |

Surrebuttal Testimony  
Cary G. Featherstone

1       Q.     Are there other recent turbine purchases that would identify the market price for  
2 the Siemens turbines?

3       A.     Yes. Empire District Electric Company (Empire) has recently acquired a  
4 "distressed unit" for a discounted price. This unit is manufactured by Siemens and is their model  
5 V84.3A2 Econopac (V84 turbine). This unit is rated at 155 megawatts and is in brand new,  
6 undamaged condition that Empire acquired from Siemens with an expected commercial in-  
7 service date of 2007. This unit is another indication that the recommendation made by Aquila  
8 and Public Counsel in this case, have other information available on which to base values for the  
9 Siemens turbines being installed at the South Harper facility.

10       Q.     Does this conclude your surrebuttal testimony?

11       A.     Yes, it does.

# **SIEMENS**

## **Westinghouse**

July 28, 2004

### ELECTRONIC TRANSMITTAL

Paul Harmon  
Client Services Director  
R.W. Beck, Inc.  
1801 California Street, Suite 2800  
Denver, CO 80202

Subject: W501D5A Budgetary Information

Dear Paul:

Siemens Westinghouse Power Corporation acknowledges receipt of your written inquiry dated June 30, 2004.

Below is the budgetary information that you requested for the Lea County Electric Cooperative project. All pricing and lead time information is to be used for budgetary purposes only and is subject to final management approval and scope review. Pricing assumes firm order placed in 2004.

#### **W501D5A Equipment (new build)**

|  |              |
|--|--------------|
| Econopac Price (including TFA, training, and transportation to site) | \$24,500,000 |
| Lead Time from Order Placement to Site Delivery                      | 18 months    |

#### **W501D5A Maintenance**

|  |                        |
|--|------------------------|
| Inspection Intervals                                   | See SB36803 (attached) |
| Estimated Combustion Inspection Cost (labor + parts)   | \$850,000              |
| Estimated Hot Gas Path Inspection Cost (labor + parts) | \$3,000,000            |
| Estimated Major Overhaul Cost (labor + parts)          | \$6,500,000            |

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If you have any questions or require additional information, please feel free to contact me at any time.

**Siemens Westinghouse Power Corporation**  
*A Siemens Company*

Reference: DN01-0031

10200 E. Girard Avenue  
Bldg. B, Suite 421  
Denver, CO 80231

Phone: (303) 696-7695  
FAX: (303) 751-2125

Schedule 1-1

**SIEMENS**  
**Westinghouse**

Regards,

Dave Alonso  
Sales Engineer

DJA

Enclosures (1)

cc: Jim Heller