

FILE

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BEFORE THE
OHIO POWER SITING BOARD 2007 DEC 28 PM 4:39

In the Matter of the Application of)
American Municipal Power-Ohio, Inc., for)
a Certificate of Environmental)
Compatibility and Public Need for an)
Electric Generation Station and Related)
Facilities in Meigs County, Ohio.)

PUCO

Case No. 06-1358-EL-BGN

REBUTTAL TESTIMONY OF LARRY MARQUIS

1 Q. Please state your name and business address.

A. My name is Larry Marquis. My business address is 2600 Airport Drive, Columbus, Ohio 43219.

2 Q. By whom are you employed and in what position?

A. I am employed by American Municipal Power-Ohio, Inc. ("AMP-Ohio"), the Applicant in this proceeding, as Vice President, Technical Services.

3 Q. What are your responsibilities regarding AMP-Ohio's power supply?

A. In addition to other duties, I am currently responsible for project development for certain generation resources for AMP-Ohio and its Members, including landfill gas and wind generation.

4 Q. Please describe your educational and professional experience.

A. I received both a Bachelor and Master of Science Degrees in Electrical Engineering from the University of Nebraska in 1970 and 1975, respectively. I have been with AMP-Ohio since 2003. Previously I served as the Administrator of the City of Columbus, Division

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of Electricity and Vice Chairman of the AMP-Ohio Board of Trustees. I have held engineering positions with the Nebraska Municipal Power Pool, the Northern California Power Agency, the Lincoln (Nebraska) Electric System, and the Omaha Public Power District. I am a registered Professional Engineer in Nebraska and Ohio. My resume is attached as Exhibit LM-1.

5 Q. What is the purpose of your rebuttal testimony?

A. To rebut Mr. Schlissel's argument that AMP-Ohio has not considered "other alternatives" and options, including renewables, other than the proposed AMPGS as a part of a portfolio including "reasonable amounts...of renewable resources."

6 Q. Please describe AMP-Ohio's and its Members' efforts regarding landfill gas generation.

A. AMP-Ohio has been utilizing landfill gas generation since 1998 and recently entered into an agreement with Bio Energy Ohio, LLC to increase that capacity from 27.783 MW to 49.783 MW. Further, we are assisting a number of Member communities in the evaluation of over 100 MW of additional landfill gas, biomass and municipal solid waste energy projects.

7 Q. Can landfill gas generation be viewed as a base load resource?

A. Yes, although because gas production is variable throughout the life of the landfill and gas storage is not economically feasible, it is not dispatchable so the amount in a power supply portfolio must be limited.

8 Q. What factors affect the economics and availability of landfill gas generation in Ohio?

- A.
- (i) The gas is “dirty” and must be cleaned. Operating and maintenance expenses can be high.
 - (ii) Gas production is variable due to numerous environmental factors such as waste composition, landfill depth, moisture content, age of the waste and landfill design.
 - (iii) Generation can be limited as (a) the methane gas fuel may be limited by the age, size and design of the landfill, and (b) by the number of landfills that can be utilized.
 - (iv) The generation is usually available in smaller increments and is not dispatchable.
 - (v) Transmission/grid access can be expensive.

9 Q. Please describe AMP-Ohio's and its Members' efforts regarding wind generation.

- A. AMP-Ohio developed, constructed and currently operates, on behalf of a subset of ten (10) of its Members known as OMEGA-JV6, Ohio's first, and to date only, utility scale commercial wind farm. That 7.2 MW facility consisting of four (4) wind turbine generators was constructed in two (2) phases beginning in 2003 and completed in 2004.

10 Q. What is the capacity factor of the OMEGA JV6 project?

- A. Approximately 23.5% through November 2007, and it has been in the 21-23% range in prior years.

11 Q. Is wind generation considered a reliable base load resource?

- A. No, although it can provide energy during both on and off-peak periods, it cannot be counted on to be available when needed – it is not dispatchable.

12 Q. What factors affect the economics and availability of wind generation for AMP-Ohio in Ohio?

- A.
- (i) Lower average wind speeds resulting in lower capacity factors than some other regions;
 - (ii) Inability to dispatch;
 - (iii) Size of wind farms may be limited in more populous states like Ohio due to significant concerns of local land owners regarding siting of the farms;
 - (iv) Transmission/grid access can be expensive;
 - (v) Long lead times for delivery of wind generating equipment and materials;
 - (vi) Escalating capital cost of wind generating equipment;
 - (vii) The life-expectancy of wind generating equipment is much shorter than traditional generating equipment; and
 - (viii) Availability of tax credits. As a non-profit organization, tax credits are of little value to AMP-Ohio.

13 Q. What are AMP-Ohio and its Members doing regarding development of additional wind generation?

- A. First, AMP-Ohio is working with a Member, the Borough of Berlin, Pennsylvania, to develop a 5.4 MW wind farm near Berlin, Pennsylvania. The wind monitoring studies, noise studies, and initial environmental impact studies have been completed. The PJM Interconnection studies are underway, and additional environmental studies are planned in the near future. AMP-Ohio has been awarded an allocation of \$3 million in Clean Renewable Energy Bonds for this Project from the Federal Government.

Second, AMP-Ohio has entered into a Memorandum of Understanding with JW Great Lakes Wind to develop up to an additional 49.5 MW of wind generation in the Wood County, Ohio area (the location of the OMEGA JV6 wind farm). JW Great Lakes is in the process of performing the feasibility study for the project.

Finally, wind monitoring studies are underway or have been completed in and around several other Member communities, including Wapakoneta, Bryan, Cuyahoga Falls, Oberlin, Elmore, Cleveland and Clyde, Ohio.

14 Q. Are there advantages to landfill gas and wind generation?

- A. Yes, but there are also disadvantages. They are environmentally sound and can be a part of the diversified portfolio that AMP-Ohio recommends for its Members. Landfill gas can be an economic source of energy, but in Ohio wind usually remains an option that will result in higher costs to consumers at this time so one must be prudent about how much is added at one time to the power supply mix. In fact, the more low cost sources in the portfolio, the more wind or other higher cost resources may be prudently added. Neither landfill gas nor wind generation is dispatchable, and wind, with less than a 25% capacity factor in our experience, is not a replacement for a base load resource such as AMPGS.

15 Q. Is AMP-Ohio pursuing other generation resources?

A. Yes. In addition to AMPGS, the Fremont Energy Center Natural Gas Combined Cycle generation discussed by Witness Clark, the hydroelectric generation discussed by Witness Meier, wind and landfill gas, AMP-Ohio is involved in confidential discussions regarding potential cogeneration applications with several entities.

16 Q. Do you have an opinion, based upon your knowledge, experience and qualifications, as to whether or not AMP-Ohio could prudently pursue and develop additional significant landfill or wind generation as base load resources at this time?

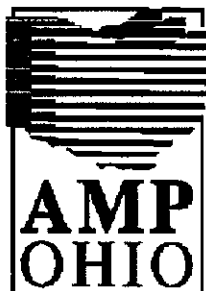
A. Yes.

17 Q. What is that opinion?

A. AMP-Ohio has and will continue to pursue a portfolio of generation resources. The complexity of developing wind and landfill resources, in relation to the amount of MW available, their lack of dispatchability and their cost do not make them a substitute for a base load resources such as AMPGS. However, having lower cost, reliable, dispatchable resources such as AMPGS enhances AMP-Ohio's ability to make these kinds of resources available to its Members.

18 Q. Does this conclude your rebuttal testimony?

A. Yes.



LARRY L. MARQUIS, P.E.
VICE PRESIDENT – BUSINESS & TECHNICAL SERVICES

PROFESSIONAL EXPERIENCE

Nov. 2003- Present **American Municipal Power-Ohio**

Vice president – Business & Technical Services

Responsibilities include providing direction & guidance for AMP-Ohio Technical Services and Key Accounts Services to members including transmission and distribution engineering and mapping, substation and relay engineering, power plant engineering, construction management, field engineering, environmental affairs, power quality services and economic development.

2001 – Nov. 2003

City of Columbus, Ohio Division of Electricity
Administrator

Responsible for providing leadership and management of a municipal utility operating a transmission and distribution system serving retail customers including functions of transmission and distribution planning, engineering operation and maintenance, power supply planning, customer service and financial responsibility.

1970-2001

Professional Public Power Experience

Primary responsibilities have included the following: relay and control system engineering; transmission & distribution engineering; power supply planning; power supply feasibility studies; design and construction of power supply facilities; energy control center operation; power supply and transmission service negotiations; legislative and regulatory activities; and joint action agency operation.

These responsibilities have been successfully fulfilled while serving in the respective capacity for the following public power utilities: Vice President of Energy Operations for AMP-Ohio, Executive Director of the Nebraska Municipal Power Pool (NMPP Energy), Manager of Engineering for the Northern California Power Agency, Chief Engineer for the Lincoln, Nebraska Electric System, and as Relay Engineer for the Omaha Public Power District.

EXHIBIT

LM-1

Larry L. Marquis, P.E.

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EDUCATION

Bachelor of Science in Electrical Engineering,
University of Nebraska

Master of Science in Electrical Engineering,
University of Nebraska

Registered Professional Engineer – Nebraska & Ohio

PROFESSIONAL ACTIVITIES

Institute of Electrical and Electronic Engineers
National Society of Professional Engineers
American Public Power Association Committees
Ohio Fuel Cell Coalition

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing American Municipal Power-Ohio, Inc.'s Rebuttal Testimony of Larry Marquis, for Case No. 06-1358-EL-BGN was served upon the following persons via electronic mail and/or via postage prepaid U.S. Mail on December 28, 2007:



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