

NON-CONFIDENTIAL

FILE

**BEFORE THE
OHIO POWER SITING BOARD**

**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.)**

Case No. 06-1358-EL-BGN

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REBUTTAL TESTIMONY OF PHILLIP E. MEIER

1 Q. Please state your name and business address.

A. My name is Phillip E. Meier. 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 Assistant Vice President – Hydro Development.

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

A. I am responsible for overall development of hydroelectric resources for AMP-Ohio and its Members. This includes identification of potential resources, evaluation of the same, overseeing outside consultants, responsibility for Federal Energy Regulatory Commission ("FERC") relations and compliance and project management duties relating to land acquisition, required modeling and other studies, preparation of construction related documents and eventual construction.

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4 Q. Please describe your educational and professional experience.

A. I received a Bachelor of Science Degree in Electronic Engineering Technology from the DeVry Institute of Technology in 1985. I have been with AMP-Ohio since 1989 and served in various capacities including the project manager of the Belleville Hydro Project for nearly 6 years of my career. I also served as AMP-Ohio's Chief Information Officer until I began my full time hydroelectric development duties again in June of 2007. In my previous role as the Chief Information Officer at AMP-Ohio, I was responsible for all of AMP-Ohio's information systems. This included all software, hardware, telecommunications, and supervisory and control of data acquisition systems. I supervised a staff of network administrators and application developers. I have also been a Project Development Manager for AMP-Ohio where I was responsible for new project development. From 1985 to 1989, I was with the Honeywell Corporation, my last position being a software specialist.

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 the Belleville Hydroelectric Project.

A. The Belleville Hydro Project is a 42 MW run of the river hydroelectric power plant on the Ohio River near Belleville, West Virginia. The Project included the construction of a concrete enclosed powerhouse with two 21 MW hydro turbine/generator sets at the existing Belleville Locks and Dam operated by the U.S. Army Corps of Engineers ("USACE"). This over \$150 M project also included 26.5 miles of 138 kV transmission and fossil fuel fired back up generation. The Belleville Project was developed on behalf of a subset of 42 AMP-Ohio Members known as OMEGA JV5. The Bellville Project is a Federal Energy Regulatory Commission ("FERC") licensed project that had to be constructed, operated and maintained in strict compliance with the FERC license

("License") for that project, as well as the requirements of the USACE.

7 Q. What were your responsibilities as Project Manager on the Belleville Hydroelectric?

A. I began the planning phases of the Belleville Project regarding FERC license acquisition and compliance and continued as the Project Manager through the design, engineering and construction of the Project. I was responsible for all contracts and for primary in-house construction management duties of that Project up until commercial operation. After commercial operation, I retained responsibility for continuing warranty and FERC License compliance issues related to the Project after commercial operation.

8 Q. How has AMP-Ohio approached development of hydroelectric generation?

A. Beginning in the early 2000's, AMP-Ohio's CEO and Board recognized (i) the need for additional generation resources and the desire to diversify those resources; (ii) the environmental desirability of hydroelectric generation; (iii) the limited opportunities for hydroelectric generation in this region; and, (iv) the potential for future regulation of CO2 emissions. As a result, AMP-Ohio began an active and aggressive effort to identify, analyze and acquire potential hydroelectric resources.

9 Q. How was the overall need for diversified resources established?

A. Through a number of studies and analyses described by Witnesses Clark and Kiesewetter.

10 Q. What does AMP-Ohio believe are the environmental advantages of hydroelectric resources?

A. Hydroelectric resources available in our region have a number of advantages including:

- (i) The primary available resources are "run of the river" projects to be located at existing locks and dams on the Ohio River, thereby lessening the environmental impact of the construction and operation of these facilities;

- (ii) Hydroelectric generation does not produce any air emissions such as SO₂, NO_x or CO₂ and therefore provides environmental benefits. It also tends to increase the dissolved oxygen content in the Ohio River. Additionally, the FERC License procedures require License holders to undertake environmental and wildlife studies that many state agencies could not independently afford. Those studies yield data and reports gathered and financed by AMP-Ohio, to the benefit of those agencies and the environment; and

- (iii) There are limited potential renewable projects that are currently developable and economically viable. There simply are not enough economically feasible renewable projects in the Midwest. As discussed by Witness Marquis, wind generation is limited due to the lack of sufficient and consistent wind, and landfill gas is limited, among other things, by the size and age of the landfill. Today, in the Midwest, AMP-Ohio believes hydro is the best renewable resource.

11 Q. What is meant by “run of the river”?

- A. The USACE controls all water flows on the Ohio River for flood control and navigation. The amount of water flow through each dam, including any hydroelectric facilities, is strictly regulated with navigation and flood control as the top priorities. The USACE determines how much water can be put through the hydroelectric portion of each dam with such a facility. Whatever run of river water flow there is that is made available by the USACE can be used when and as available to make electricity. “Pooling” water to make additional generation when needed is not an option. These kinds of facilities are not, therefore, dispatchable.

12 Q. Can hydroelectric generation produce cost advantages as well?

- A. Yes, although hydroelectric projects are very capital intensive and expensive to construct, our experience has shown a well planned and constructed hydroelectric project can trend below market prices within 5-10 years of commercial operation. The end result is that

hydroelectric projects can be attractive from a power supply cost basis. Hydroelectric generation does have inherent construction risks that must be carefully managed, however.

13 Q. What are those advantages?

A. Advantages include:

- (i) The expected life of hydro generation is extremely long, well over 50 years, providing lower cost output after debt service is paid off;
- (ii) With no fuel costs, lower relative operating and maintenance costs, and fixed debt service, the cost of the output of hydroelectric projects over time are much less affected by inflationary pressure than most other types of generation;
- (iii) Special funding can be available for hydroelectric facilities. For example, AMP-Ohio has applied for and obtained special Clean Energy Renewable Bonds ("CREBs"). AMP-Ohio has already been allocated over \$15 M in such bonds for our hydroelectric projects; and
- (iv) Finally, hydroelectric generation will help hedge the potential impact of CO2 or other emissions costs on our Members as part of their overall power supply portfolio.

14 Q. What are the limitations on the availability and economics of hydroelectric generation in this region?

A. Absent new dam construction or creation of pumped storage, both of which involve numerous environmental impacts, cost and other feasibility issues, the hydroelectric generation available in this region principally consists of a number of licenses issued by the Federal Energy Regulatory Commission ("FERC") on the Ohio River that remain undeveloped. The FERC issued 16 Licenses in 1989. Only one of those 16 have been

built, Belleville, and AMP-Ohio and its Members are pursuing to the development of 5 others. Additionally, as mentioned above, hydroelectric generation in this region is very capital intensive and for the most part, non-dispatchable. Also, the capacity factors are low - in the 50-60% range - compared to coal-fired generation.

15 Q. What has AMP-Ohio done to pursue those licenses?

- A. A number of things. Initially, AMP-Ohio identified certain FERC licenses that were held or controlled by a private developer and successfully initiated negotiations to purchase those licenses in order to develop them. Concurrently, AMP-Ohio engaged one of the nation's foremost hydroelectric engineering firms, Montgomery Watson Harza ("MWH"), to evaluate the technical and economic feasibility of 10 potentially available, undeveloped Ohio River licenses. That Study is a confidential document, the confidential conclusions of which is marked as Exhibit PM-1 attached hereto. That report was undertaken and completed under my direction and supervision.

CONFIDENTIAL PORTION FOLLOWS:

[REDACTED]

NON-CONFIDENTIAL PORTION CONTINUED:

17 Q. What has AMP-Ohio done with regard to development of the available and technically and economically viable licenses?

- A. On behalf of its Members, AMP-Ohio has acquired control of the following FERC licenses and is pursuing development and construction of the same.
- (i) Cannelton, Hydroelectric Project (FERC License No. 10228) - an 81 MW project located at the Cannelton Locks and Dams. This License was acquired from the previous license holder that had not undertaken adequate development;

- (ii) Smithland, Hydroelectric Project (FERC License No. 6641) - a 73 MW project located at the Smithland Locks and Dams. This License was acquired from the previous license holder that had not undertaken adequate development; and
- (iii) Willow Island, Hydroelectric Project (FERC License No. 6902) - a 37 MW project located at the Willow Island Locks and Dams. This License was held by AMP-Ohio Member, the City of New Martinsville, West Virginia, and the License will eventually be transferred to AMP-Ohio for development on behalf of its Members, including New Martinsville.

These Projects total 191 MW and are currently under development. Preliminary site work has begun on these Projects and the initial requests for proposals for manufacture of the eight (8) turbine generators for the three (3) Projects have been issued. The FERC Licenses required hydraulic modeling studies and that has been contracted for and the models are being constructed. Testing will begin on these models in late January and early February. Bid specifications for the remaining site preparation and civil construction and installation are being prepared.

18 Q. Have AMP-Ohio's Members contracted for these projects?

- A. Yes, over 67 Member municipalities, including 61 in Ohio, have executed agreements for construction and operation of the projects. Additional Members may also join the Projects over the next few months. In fact, we are already over-subscribed, that is we have greater demand for the projects' capacity (197 MW) than what is currently available (191 MW).

19 Q. What are the estimated capital costs of those three Projects?

- A. AMP-Ohio's consulting engineer, J.S. Sawvel & Associates ("J.S. Sawvel"), estimates approximately \$760 M. The development of these Projects is outlined in our confidential consulting engineers feasibility report by J.S. Sawvel, the Executive Summary containing

the conclusions of which are attached as Exhibit PM-2. That report was undertaken under my direction and supervision.

20 Q. What other hydroelectric projects are AMP-Ohio and its Members pursuing?

- A. AMP-Ohio Member, City of Hamilton, Ohio, with AMP-Ohio's support, is pursuing the FERC License for the Meldahl Hydroelectric Project, a 105 MW project at the existing Captain Meldahl Locks and Dams on the Ohio River. AMP-Ohio expects a portion of that Project will be available to other AMP-Ohio members. Hamilton also owns and operates the 70.2 MW Greenup Hydroelectric Project. AMP-Ohio and its Member, the City of Wadsworth, Ohio, are also pursuing the FERC License for the R.C. Byrd Hydroelectric Project, a 48 MW project located at the R.C. Byrd Locks and Dams near Gallipolis, Ohio. AMP-Ohio is also pursuing one additional non-FERC licensed hydroelectric project at an existing dam of approximately 25 MW, currently controlled by three municipalities, one of which is an AMP-Ohio Member.

21 Q. Is there competition for those FERC Licenses?

- A. Yes. A private utility also filed for the Meldahl License but has since abandoned that effort. Two Kentucky communities are competing with AMP-Ohio and its Member, the City of Wadsworth, Ohio for the R.C. Byrd License. That is still being litigated. Brookfield Power has filed a permit for the Olmstead Project. There was additional competition for other licenses.

CONFIDENTIAL PORTION FOLLOWS:

[REDACTED]

NON-CONFIDENTIAL PORTION CONTINUED:

23 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 hydroelectric generation at this time?

A. Yes.

24 Q. What is that opinion?

A. Given the economic and technical aspects of the additional potential developments, the significant financial commitment represented by the 5 projects being pursued and the different logistics of developing multiple projects, it would not be prudent. Before pursuing additional potentially available hydroelectric projects of any size, the projects currently being developed or pursued should be moved significantly toward completion or a determination that one or more should not, for some reason, be further pursued or developed. Only then should AMP-Ohio pursue additional hydroelectric projects.

25 Q. Are there others that are developing hydroelectric projects in this region?

A. Not that I am aware of in this region and of comparable size. There have been many developmental attempts, but none that are at the stage of AMP-Ohio's projects.

26. Q. Does this conclude your rebuttal testimony?

A. Yes.

EXHIBIT PM-1

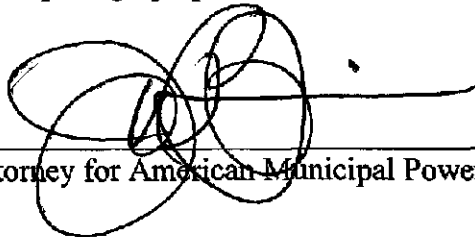
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EXHIBIT PM-2

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CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing American Municipal Power-Ohio, Inc.'s Rebuttal Testimony of Phillip E. Meier, 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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