

MPUC Docket No. E-6472-/M-05-1993
OAH Docket No. 12-2500-17260-2

BEFORE THE
MINNESOTA OFFICE OF ADMINISTRATIVE HEARINGS
100 Washington Square, Suite 1700
Minneapolis, Minnesota 55401-2138

FOR THE
MINNESOTA PUBLIC UTILITIES COMMISSION
127 7th Place East, Suite 350
St. Paul, Minnesota 55101-2147

In the Matter of the Petition of Excelsior Energy Inc.
and Its Wholly-Owned Subsidiary MEP-I, LLC For Approval of Terms and
Conditions For The Sale of Power From Its Innovative Energy Project Using
Clean Energy Technology Under Minn. Stat. § 216B.1694 and a
Determination That the Clean Energy Technology Is Or Is Likely To Be a
Least-Cost Alternative Under Minn. Stat. § 216B.1693

REBUTTAL TESTIMONY OF
EXCELSIOR ENERGY INC. AND MEP-I LLC

THOMAS A. LYNCH

OCTOBER 10, 2006

1 **EXCELSIOR ENERGY, INC.**

2 **BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION**

3 **PREPARED REBUTTAL TESTIMONY OF**

4 **THOMAS A. LYNCH**

5 **Q Please state your name, current employment position and business address.**

6 A My name is Thomas A. Lynch. I am a Project Development Manager for
7 ConocoPhillips Company, the third largest integrated energy company in the United
8 States. My business address is 444 W. Sanford Ave, West Terre Haute, IN 47885.

9 **Q Have you previously provided testimony in this proceeding?**

10 A Yes. I submitted Direct Testimony on June 19, 2006 on behalf of Excelsior
11 Energy.

12 **Q What is the purpose of your Rebuttal Testimony in this proceeding?**

13 A The purpose of my rebuttal testimony is to respond to the Direct Testimony and
14 Schedules of Minnesota Power (“MP”) witness Dwight D. Anderson. In particular, I
15 will responds to the following issues raised by this witness:

16 (1) Whether it is appropriate to refer to the Louisiana Gasification Technology,
17 Inc. (“LGTF”) facility as a pilot test project and whether the proposed Mesaba Project is
18 properly characterized as a first, second or third generation commercial facility;

19 (2) Whether operating ConocoPhillips E-Gas™ technology using sub-
20 bituminous fuel is properly characterized as the application of an existing technology to
21 a new fuel; and

22 (3) The proper characterization of “scale-up” from the Wabash Facility to the
23 proposed Mesaba Project.

1 **Q Are you familiar with the LGTI Facility?**

2 A Yes. LGTI was a commercial scale gasification facility developed and operated
3 by Dow Chemical Company from 1987-1995. I was employed by Dow at the time the
4 LGTI facility was operating and I personally worked on that project. The LGTI plant
5 was designed to operate on 2400 tons per day of sub-bituminous coal to produce syngas
6 and steam.

7 **Q Would you characterize the LGTI facility as a pilot test project?**

8 A No. The LGTI facility was a first generation commercial scale project that
9 operated very successfully from 1987-1995. The facility processed approximately 3.7
10 million tons of sub-bituminous coal during that period. There was another Dow project
11 before the LGTI project referred to as the “Proto” project, which could appropriately be
12 characterized as a pilot test project.

13 **Q Does the Wabash River Facility also utilize the E-Gas™ technology used in the
14 LGTI facility?**

15 A Yes.

16 **Q Would you characterize the proposed Mesaba Facility as a first, second or third
17 generation commercial facility?**

18 A In light of the fact that LGTI operated successfully for eight years and the
19 Wabash River facility started operating in 1995 and is today operating very
20 successfully, I would say that LGTI and Wabash River, respectively, are arguably first
21 and second generation commercial applications of the E-Gas™ technology, and that the
22 proposed Mesaba Facility will be a third generation application of the E-Gas™
23 technology for power generation.

1 **Q Is the Mesaba Project proposing to apply E-Gas™ technology using a new fuel?**

2 A No. As discussed above, the LGTI facility utilized E-Gas™ technology
3 operating on sub-bituminous coal, and the Mesaba Project is being designed to operate
4 on sub-bituminous coal. In fact, more sub-bituminous coal has been gasified using
5 E-Gas™ technology (3.7 million tons) than bituminous (1.7 million ton) and petroleum
6 coke (1.8 million tons) combined. In short, the E-Gas™ technology has demonstrated
7 extensively its ability to process each of sub-bituminous, bituminous and petroleum
8 coke feedstocks in commercial-scale applications, which is the reason the Mesaba
9 Project is being designed to be fuel flexible.

10 **Q What are the proper units to measure syngas production from a gasification train**
11 **using the E-Gas™ technology?**

12 A Total MMBtus/hr of syngas produced.

13 **Q What are the proper units to measure the amount of fuel processed at a facility**
14 **using the E-Gas™ technology?**

15 A Total tons per day of coal or other solid fuel processed.

16 **Q What is the scope of any “scale up” between the Wabash River Facility and the**
17 **Mesaba Project?**

18 A It is important to distinguish between the gasification trains and the fuel
19 handling and slurry systems. Wabash River operates as a single train facility (i.e. one
20 gasifier and related systems feeding syngas to one combustion turbine unit). The
21 Mesaba Project is being designed to operate with two gasification trains feeding syngas
22 to two combustions turbine units. Therefore for everything other than the fuel handling
23 and slurry systems the appropriate comparison is between one gasification train at
24 Wabash River and one gasification train of the proposed Mesaba Project. Wabash

1 River produces 1800 MMBtu/hr of syngas and a single train of the Mesaba Project will
2 be sized to produce approximately 2100 MMBtu/hr, or approximately 17% more syngas
3 production per train than the current Wabash production. In order to achieve this
4 increased syngas output, the gasifier and related systems for a single train at Mesaba
5 will be on the order of 10-30% larger (depending on the particular component). In my
6 opinion although there is some scale-up in the gasification train between the Wabash
7 River Facility and the Mesaba Project, I do not believe it is considerable. As for the
8 fuel handling and slurry facilities, Wabash River processes approximately 2600 tons per
9 day of fuel and because the Mesaba Project will operate with two trains, the Mesaba
10 Project will process approximately 4100 tons per day, representing an approximately
11 58% increase.

12 **Q Have you ever been involved with a project where a component was scaled-up by**
13 **50% or more?**

14 A Yes. The LGTI facility processed approximately 2400 tons per day of sub-
15 bituminous coal. The Proto facility that preceded the LGTI facility also used E-Gas™
16 technology and processed approximately 1600 tons per day of fuel.

17 **Q Did the LGTI Facility successfully achieve the scale-up from the Proto facility?**

18 A Yes, and as mentioned above, the LGTI facility operated very successfully for
19 eight years.

20 **Q Does this conclude your prepared rebuttal testimony?**

21 A Yes.