

MPUC Docket No. E-6472/GS-06-668
OAH Docket No. 12-2500-17512-2

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 a Joint LEPGP Site Permit,
HVTL Route Permit and Pipeline (Partial Exemption)
Route Permit Application for the Mesaba Energy Project

PREPARED DIRECT TESTIMONY AND EXHIBITS OF
EXCELSIOR ENERGY INC., MEP-I LLC, AND MEP-II LLC

CHARLES R. MICHAEL

JANUARY 16, 2007

1 **EXCELSIOR ENERGY, INC.**

2 **BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION**

3 **PREPARED DIRECT TESTIMONY OF**

4 **CHARLES R. MICHAEL**

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

6 A Charles R. Michael. I am a Senior Principal and Director of Short Elliott
7 Hendrickson Inc. (“SEH”), a consulting firm of engineers, architects, planners, and
8 scientists with offices in ten states throughout the Upper Midwest and Rocky Mountain
9 regions. My business address is 3535 Vadnais Center Drive, St. Paul, Minnesota 55110.

10 **Q Would you please describe your educational and professional background.**

11 A I hold a Bachelor of Science in Civil Engineering from the South Dakota School
12 of Mines and Technology and have pursued graduate studies in structural engineering at
13 the same institution. I am registered as a Professional Engineer in Minnesota. In my
14 current position, I serve as Director of SEH’s Industrial/Private Sector Client Center and
15 as Special Projects Manager for major projects. I have 30 years of experience in
16 business planning, strategic development, study, design, construction, and operation of
17 mining and industrial processes and facilities, solid and hazardous waste disposal
18 facilities, and related environmental applications for both the public and private sectors.
19 Fields of specialization include, among others, environmental review and analysis for
20 major projects and environmental permitting. My resume is appended as Exhibit ____
21 (CRM-1).

1 **Q On whose behalf are you testifying?**

2 A I am testifying on behalf of MEP-I LLC, MEP-II LLC, and Excelsior Energy Inc.
3 (collectively “Excelsior”), the developers of the Mesaba Energy Project (the “Project”).

4 **Q What is your role with respect to the Project?**

5 A I am SEH’s project director for all of our firm’s work on the Project. In this
6 capacity, I interact with and direct the work of SEH staff in numerous disciplines. Our
7 firm is responsible for major components of the engineering and the environmental
8 review for the Project, including analysis of impacts on air, water, wetlands, rare and
9 endangered species, public safety, and other areas of environmental significance.

10 Scope and Summary

11 **Q What is the scope of your testimony in this proceeding?**

12 A The purpose of my testimony is to sponsor several sections of Excelsior’s Joint
13 Application and Environmental Supplement. The general subjects of my testimony
14 include SEH’s involvement in the Project as a whole, site selection, infrastructure cost
15 comparisons, regional planning, land use, noise, and public services.

16 In particular, I am sponsoring and am available to answer questions regarding the
17 following sections:

18 **Joint Application**

19 Section 2.7 (Summary Comparison of West Range and East Range Sites)

20 Section 2.8 (Preferred and Alternate Site Comparison of Construction and
21 Operating Costs)

22 West Range Site

23 Section 7.1 (Land Use Impacts)

1	Section 7.9.1 (Noise Standards)
2	Section 7.9.2 (Site Setting and Receptors)
3	Section 7.9.3 (Existing Noise Levels)
4	Section 7.11.1 (Public Services)
5	<u>East Range Site</u>
6	Section 8.1 (Land Use Impacts)
7	Section 8.9.1 (Noise Standards)
8	Section 8.9.2 (Site Setting and Receptors)
9	Section 8.9.3 (Existing Noise Levels)
10	Section 8.9.5.1 (Power Station Operating Noise Impacts: Results)
11	Section 8.11.1 (Public Services)
12	Environmental Supplement
13	Section 2.8 (Land Use)
14	Section 2.11 (Noise)
15	Section 2.15 (Community Services)
16	Section 3.7 (Land Use)
17	Section 3.10.1 (Construction Noise Levels)
18	Section 3.10.2 (Operational Noise Levels)
19	Section 3.10.4 (Rail Noise and Vibration)
20	Section 3.10.5 (Impact of Construction Noise on Receptors)
21	Section 3.10.6 (Impact of Plant Operation Noise on Receptors)
22	Section 3.10.7 (Impact of Rail Noise and Vibration on Receptors)
23	Section 3.10.8 (Impact of Traffic Noise on Receptors)

- 1 Section 3.10.9.1 (Mitigation Of Construction Noise)
- 2 Section 3.14.5 (Housing Availability and Real Estate Value)
- 3 Section 3.14.6 (Community Services)
- 4 Section 3.14.7 (Mitigation Measures)

5 During the preparation of the Joint Application and the Environmental
6 Supplement, SEH personnel and I worked closely with Excelsior in preparing and
7 reviewing these sections. These sections incorporate field reports and analysis that SEH
8 personnel prepared.

9 Comparison of West and East Range Sites

10 **Q How do the West and the East Range site locations compare from an environmental**
11 **standpoint?**

12 A Section 2.7 of the Joint Application summarizes the differences between the
13 West and the East Range Sites. Table 2.7-1 compares the two sites with regard to 25
14 environmental and infrastructure considerations. The West Range Site is rated as
15 decidedly favorable with respect to 12 of the considerations, while the East Range Site
16 was rated as decidedly favorable with respect to only three considerations. Neither of
17 the sites demonstrate environmental characteristics that are decidedly negative.

18 **Q What are the considerations for which the West Range Site is decidedly favorable?**

19 As summarized in Table 2.7-1 of the Joint Application, the West Range Site is
20 rated as decidedly favorable with respect to the following:

- 21 • Public Services
- 22 • Tourism
- 23 • Archaeological and Historic Resources

- 1 • Solid Waste
- 2 • Site
- 3 • Electric Transmission
- 4 • Gas Supply
- 5 • Water Supply/Wastewater
- 6 • Rail/Truck Transportation
- 7 • Energy Efficiency
- 8 • Cost

9 **Q What are some of the cost considerations that distinguish the West and the East**
10 **Range site locations?**

11 A As discussed in Section 2.8 of the Joint Application, the operational and capital
12 cost differences between the West and the East Range site locations result in the East
13 Range site location being more expensive. The net present value of the increased cost of
14 developing the East Range site location was originally estimated to be \$260 million.
15 Since submitting the Joint Application, this difference has decreased, but not to the
16 extent of changing the conclusion.

17 **Q. What was the reason behind the narrowing of the difference in the site location**
18 **development costs?**

19 A. The system impact studies were completed by MISO and showed that network
20 reinforcements were required to connect Mesaba One at the West Range site, while none
21 were required to connect Mesaba One at the East Range Site, as described on pages 3-4
22 of Mr. Sherner's direct testimony.

1 **Q What are the reasons for the increased cost to develop the East Range site location?**

2 A The reasons for the remaining cost difference include additional costs for
3 delivering the primary feedstocks to the IGCC Power Station, disposal of Zero Liquid
4 Discharge (“ZLD”) solids, higher losses over high voltage transmission lines, increased
5 auxiliary power use, as well as additional capital costs associated with longer natural gas
6 pipeline facilities and the ZLD system. These costs exceed the costs estimated for the
7 aforementioned West Range network reinforcements.

8 Selected West Range Features

9 **Q What is the current zoning of the West Range site location?**

10 A The IGCC Power Station Footprint and Buffer Land are located completely
11 within an area zoned for industrial purposes.

12 **Q Please describe existing noise levels in the vicinity of the West Range site location.**

13 A Noise levels are typical for townships and locales of this size. Daytime noise
14 levels at all monitored noise receptors were below state standards. This is generally true
15 for nighttime levels as well, however, existing nighttime levels at two residential
16 receptors are above standards, likely due to the proximity of the receptors to County
17 Road 7.

18 **Q How will fire, emergency medical, police, and utility services be provided to the**
19 **West Range IGCC Power Station?**

20 A Fire and emergency medical services will be provided primarily by the City of
21 Taconite, with back up provided under agreements with other nearby communities if
22 needed. Excelsior would train its own first responders and first aid specialists to respond
23 until emergency personnel arrive. Itasca County provides police protection to the City

1 of Taconite and surrounding area. Potable water and sanitary sewer services will be
2 extended from the City of Taconite's existing utility systems.

3 Selected East Range Features

4 **Q What is the current zoning of the East Range IGCC Power Station Footprint and**
5 **Buffer Land?**

6 A The IGCC Power Station Footprint and Buffer Land are located completely
7 within the mining district designation.

8 **Q How will fire, emergency medical, police, and utility services be provided to the**
9 **East Range IGCC Power Station?**

10 A Fire and emergency medical services will be provided primarily by the City of
11 Hoyt Lakes, with back up provided under agreements with other nearby communities if
12 needed. Excelsior will train its own first responders and first aid specialists to respond
13 until emergency personnel arrive. The City of Hoyt Lakes will also provide police
14 protection, with backup by the St. Louis County Sheriff's Department if necessary.
15 Potable water and sanitary sewer services will be extended from the existing utility
16 systems serving the City of Hoyt Lakes.

17 Supplements and Clarifications

18 **Q Are there any parts of the sections that you have sponsored and incorporated by**
19 **reference that you would like to supplement or clarify at this time?**

20 A Not at this time.

21 Conclusion

22 **Q Does this conclude your testimony?**

23 A Yes.

EXHIBITS

EXHIBIT ___ (CRM-1)

Charles R. Michael, PE
Senior Principal/Director

General Background

Serves as Director, Industrial/Private Sector Client Center and Special Projects Manager for major projects, with 30 years of significant practical experience in business planning, strategic development, study, design, construction, and operation of mining and industrial processes and facilities, solid and hazardous waste disposal facilities, and related environmental applications for both the public and private sectors. Fields of specialization include business and strategic planning, public information strategies, environmental restoration, environmental permitting strategies, environmental analysis (EA/EAW/EIS) for major projects, performance enhancement, contract negotiations, construction management, construction claims and dispute resolution, and start-up operations.

Selected Experience

Mesaba Energy IGCC Project – Northern Minnesota. Preliminary engineering, site selection, high voltage transmission generator outlet interconnect, water appropriation permit, environmental analysis, construction permit and development strategies for proposed 1212 MW Integrated Gasification Combined Cycle (IGCC) coal gasification facility. Estimated cost: \$2 billion.

Minnesota Steel Industries/Itasca County – Nashwauk, Minnesota. Preliminary engineering and site evaluation for public infrastructure improvements, rail access, power supply, high voltage transmission, and high pressure gas supply for the first U.S. fully integrated sheet minimill that incorporates a new taconite iron ore mine, concentrator, pelletization plant, direct reduction iron (DRI) facility, melting furnace, and a thin-slab caster and hot strip mill to produce high quality hotrolled sheet steel. Estimated cost: \$1.6 billion.

Soudan Deep Underground Science and Engineering Laboratory (DUSEL), Soudan Underground Mine, Northern Minnesota. Preliminary engineering and cost estimates to develop surface campus facilities, vertical raised bore shafts, decline drifts and tunnels to access planned laboratory caverns at 4500 feet and 8000 feet levels, planned by University of Minnesota. Estimated cost: N/A

NOvA Off-Axis Detector, Fermi National Accelerator Laboratory, Northern Minnesota. Site selection, environmental analysis (EAW), and preliminary site engineering and cost estimates for NuMI Far Detector, a 30,000 metric ton tracking calorimeter which will be located on the surface in Northeastern MN, ~810 km from Fermilab. The NOvA Off-Axis Detector and the Near Detector, located at Fermilab at the end of the NuMI beam tunnel, both use liquid scintillator channels in PVC extrusions as their active elements. The purpose of the off-axis location is to select a relatively monoenergetic beam with a most probable neutrino energy of ~2 GeV. Estimated cost: \$150 million.

Education

*Bachelor of Science
Civil Engineering
South Dakota School of Mines &
Technology (1977)
Graduate Studies
Structural Engineering
South Dakota School of Mines &
Technology*

Professional Registrations

*Professional Engineer in
Minnesota and Colorado*

Professional Associations

*American Consulting Engineers
Council
Minnesota Society of
Professional Engineers
National Society of Professional
Engineers (NSPE)
Society for Mining, Metallurgy
and Exploration (SME)*

Previous Employment

*Rust Environment &
Infrastructure, Inc.
Principal
Malcolm Pirnie, Inc.
Vice President*

Community Service

*Chair, Olmsted County (MN)
Environmental Commission
(2004)*



Low Background Counting Facility, Soudan Underground Mine and Laboratory, Northern Minnesota. Preliminary engineering, design, and procurement strategies for installation of ultra pure water shield and support facilities to facilitate application of radioassay techniques in multiple areas of science and technology including diagnostic radiology, ultralow background semiconductors and qualifying material for other neutrino and gamma ray detectors. Estimated cost: \$2 million.

Minnesota Copper/Nickel Project – Babbitt/Hoyt Lakes, Minnesota. Business and strategic planning, communications and public information facilitation for proposed Copper/Nickel/Cobalt/PGM mine, mill and hydrometallurgical refinery to be developed near Babbitt and Hoyt Lakes, MN by Teck Cominco American Incorporated and Mesaba Metals, LLC. Estimated cost: Confidential.

Comprehensive Plan – Lead, South Dakota. Project Officer for Lead, SD comprehensive plan that will establish a new long-range vision and program to shape future economic diversity and land use, addressing the dramatic physical, social, and cultural impacts as a result of the closure of the Homestake Gold Mine. Development aspects of the proposed Homestake Deep Underground Science and Engineering Laboratory (DUSEL) will be incorporated into the community plan while celebrating the community legacy of mining.

Resource Recovery Facility – Dakota County, Minnesota. Project Manager for \$180 million, 800-tpd municipal solid waste incineration/cogeneration facility planned in Dakota County. Project tasks included design/build/operate vendor selection using simultaneous, competitive contract negotiations, facility siting, EIS, air quality/PSD permitting, NO_x and mercury control strategy and equipment specifications/negotiations, ambient air toxics monitoring, energy market negotiation, and conceptual facility design. This project received its MPCA construction and operating permit prior to project cancellation.

Waste-to-Energy Facility – Olmsted County, Minnesota. Project Manager with overall project responsibility including facility siting, MPCA air quality permit application, energy market negotiations, development of a modified A/E project design approach, major equipment specifications and procurement, building envelope contractor selection, fast-track facility construction, start-up, utility synchronization, and operation of this 200-tpd mass-burn, cogeneration facility. Directed siting, permitting, and design efforts for ash monofill and bypass landfills.

