

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

STEPHEN D. SHERNER

JANUARY 16, 2007

1 **EXCELSIOR ENERGY, INC.**

2 **BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION**

3 **PREPARED SUPPLEMENTAL TESTIMONY OF**

4 **STEPHEN D. SHERNER**

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

6 A Stephen D. Sherner. I am the Principal of Sherner Power Consulting, LLC. I
7 have been working with Excelsior Energy Inc. (“Excelsior”) for nearly three years in
8 connection with evaluating transmission infrastructure needs associated with the
9 delivery of energy from the Mesaba Energy Project Units One and Two to the Xcel
10 Energy (NSP) control area for ultimate delivery to retail customers. As part of my
11 responsibilities, I have worked directly with Excelsior, the Midwest Independent
12 Transmission System Operator, Inc. (“MISO”) and affected transmission owners related
13 to the interconnection of the Mesaba Energy Unit One to the bulk transmission system.

14 My business address is Sherner Power Consulting, LLC, 6890 Fitch Avenue,
15 Lake Nebagamon, Wisconsin 54849. My resume is attached as Exhibit ___ (SDS-1) to
16 this Testimony.

17 **Q Would you please describe your educational and professional background**

18 A I have served in many senior executive roles in the power industry and was most
19 recently the president of the Minnesota Power unit responsible for unregulated power
20 development and marketing. I have more than three decades of experience in power
21 generation, transmission, systems planning and operation and business development,
22 and, as a long-serving member of the Mid-Continent Area Power Pool (“MAPP”) Executive
23 Committee and MAPPCCOR Board, was integrally involved in the formation

1 of the new Midwest Reliability Organization and the merger of the transmission
2 functions of MAPP and MISO.

3 I hold an Associates Degree in Applied Science from Alfred Agricultural and
4 Technical College and a Bachelor in Engineering Technology from the Rochester
5 Institute of Technology. I have also completed the University of Michigan's Utility
6 Executive Program, EEI's Senior Middle Management Program, and the University of
7 Minnesota's Executive Program. I am a registered Professional Engineer in the State of
8 Wisconsin.

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

10 A I am testifying on behalf of MEP-I LLC, MEP-II LLC, and Excelsior Energy
11 Inc. (collectively "Excelsior"), the developers of the Mesaba Energy Project
12 (the "Project").

13 Scope and Summary

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

15 A The primary purpose of my testimony is to sponsor several sections of
16 Excelsior's Joint Application and Environmental Supplement. The subject of my
17 testimony, in general, is transmission line planning.

18 I am sponsoring the following sections:

19 **Joint Application**

20 Section 4.1 (Electrical Design Considerations and Switchyards)

21 Section 4.2 (Generator Outlet Routes: Special Considerations)

22 Section 4.3 (Structures and Right-of-Way Requirements)

1 **Environmental Supplement**

2 Section 1.12.1.1 (Electrical Transmission)

3 Section 1.12.1.2 (Generator Outlet Routes: Special Considerations)

4 Section 1.12.1.3 (Structures and ROW Requirements)

5 Section 1.12.1.4 (Conductors)

6 Section 1.12.1.5 (Other Transmission Network Reinforcements)

7 Section 1.12.1.6 (Transmission Line Construction)

8 Section 1.12.1.7 (Transmission Line Operation and Maintenance).

9 During the preparation of the Joint Application and Environmental Supplement,
10 I worked closely with Excelsior and Laramore, Douglass and Popham in reviewing and
11 preparing these sections and I am available to answer any questions related thereto.

12 **Q Is there any additional information related to your work on the Project that you**
13 **wish to report at this time?**

14 **A.** Yes. In Section 4.3.3 of the Joint Application and Section 1.12.1.5 of the
15 Environmental Supplement, I discuss efforts undertaken by Excelsior (as part of the
16 MISO’s Large Generator Interconnection Procedure or “LGIP”) to identify network
17 reinforcements beyond the Blackberry (West Range) and Forbes (East Range)
18 Substations, MISO work projects G519 and G477, respectively. At the time the Joint
19 Application was filed, the network reinforcements for both the West Range and East
20 Range site locations had just been completed and posted by MISO.

21 **Q What were the results of the two System Impact Studies?**

22 **A** The results of Project G519 (West Range) showed that network reinforcements
23 between the Clay Boswell Power Station (“Clay Boswell”) and the Riverton Substation

1 (“Riverton”) were required to avoid constraints due to interconnection of Mesaba One
2 at the Blackberry Substation. Although the results of the Facilities Study conducted as
3 part of the LGIP have not been finalized for this network upgrade, we know from the
4 draft reports that the costs of such upgrades could be expected to range between \$50
5 million and \$75 million.

6 The results for Project G477 indicate that no network upgrades are necessary for
7 interconnection. The conclusions for the West Range location were based on a net plant
8 output of 606 MW while those for the East Range were based on a net plant output of
9 531 MW. In order for the studies to be directly comparable, Excelsior commissioned
10 further independent work, using the MISO developed system models, to verify to what
11 extent, if any, the results would change by adding another 75 MW of capacity to the
12 East Range IGCC Power Station’s output. These studies still indicate that no network
13 upgrades would still be necessary for interconnection of Mesaba One at 606 MW at the
14 East Range site location (G477).

15 **Q What, if any additional upgrades will be necessary if the West Range location is**
16 **selected?**

17 **A** No additional upgrades other than the Clay Boswell – Riverton line will be
18 required for Mesaba One. The results of MISO’s Deliverability Report¹ indicate the
19 entire 600 MW of capacity studied under Project G519 are deliverable to the Xcel
20 footprint (dependent only upon completion of the planned Baxter – Southdale 115 kV

¹ Posted on MISO’s website as part of the G519 System Impact Study. See http://www.midwestmarket.org/publish/Document/7be606_10b7aacd66e_-7ad90a48324a.

1 Project², a short, 115 kV line between Minnesota Power’s Baxter and GRE’s Southdale
2 substations). This means that the full 600 MW can be accredited to Xcel’s capacity
3 under peak load conditions.

4 **Q Are any network reinforcements required to interconnect the East Range IGCC**
5 **Power Station to the Forbes Station?**

6 A No additional upgrades will be required for Mesaba One. The results of MISO’s
7 Deliverability Report³ indicate the entire 531 MW of capacity studied under Project
8 G477 are deliverable to the Xcel footprint (dependent only upon completion of the
9 planned Boswell – Wilton 230 kV transmission line⁴). Deliverability for the now
10 proposed 606 MW would have to be analyzed by MISO should the East Range site
11 location be chosen.

12 **Q Why were the two System Impact Studies conducted at different capacities?**

13 A Excelsior submitted the East Range Large Generator Interconnection Request
14 before determining Project economics favored a larger 600 MW_{net} combustion turbine
15 generator. Rather than losing its position in the MISO Generator Interconnection
16 Queue, Excelsior decided to proceed with its existing request.

17 **Q What relevance do the findings of the Deliverability Test have with respect to the**
18 **Joint Application?**

19 A The Deliverability Test results will affect the cost comparison provided in
20 Section 2.8 of the Joint Application. Currently, the row in Table 2.8-1 labeled “GO

² MAPP 2004 Ten-Year Reliability Assessment, Mid-Continent Area Power Pool Planning Subcommittee, November 2004.

³ Posted on MISO’s website as part of the G477 System Impact Study. See http://www.midwestmarket.org/publish/Document/469a41_10a26fa6c1e_-72b80a48324a.

⁴ 2005 Minnesota Biennial Transmission Projects Report, November 1, 2005.

1 HVLT” shows the East Range site location being the higher of the two costs associated
2 with this development element. Completion of the System Impact Studies at both sites
3 for Mesaba One indicate that the base case costs for connecting it to the regional
4 electric grid will shift in favor of the East Range alternate site location. The precise
5 change for this development element can be estimated once the good faith cost
6 estimates from the Final Facility Study Reports have been finalized. Once such costs are
7 complete, Tables 2.8-1 and 2.8-2 of the Joint Application will be updated.

8 **Q Do you have any other information to add to your testimony at this time?**

9 A Yes. Sections 4.1.5 and 4.2.1.3 of the Joint Application and Sections 1.12.1.1.5
10 and 1.12.1.2.3 of the Environmental Supplement indicate that the two 345 kV circuits
11 linking the East Range IGCC Power Station to the Forbes Substation would be
12 energized at 345 kV commencing with operation of Mesaba One. This plan is no longer
13 the preferred approach. Instead, Excelsior will energize the two 345 kV circuits at 230
14 kV commencing with operation of this unit.

15 **Q What implication does this have on the economics of the East Range location?**

16 A This approach represents the most economic alternative for the East Range
17 IGCC Power Station anticipating the addition of Mesaba Two. Initial 345kV
18 development in Phase I would cost an additional \$13-20M over the 230 kV option. The
19 economics of avoiding 13 MW of line losses commencing with operation of Mesaba
20 Two is the basis for justifying the higher Phase I costs and the extra \$3.7M in total
21 development costs associated with constructing the 345kV HVTLs for the East Range
22 IGCC Power Station.

1 **Q Does this change affect any other element of your testimony?**

2 A No, but it does affect the electric and magnetic fields and the noise calculations
3 presented in Section 4.6 of the Joint Application and Section 1.12.1.8 of the
4 Environmental Supplement. Excelsior witness Paul Young (LDP) has revised such
5 calculations to show the fields and noise expected from operating the 345kV circuits at
6 230kV until Mesaba Two commences its operation.

7 **Q Does this conclude your prepared supplemental testimony?**

8 A Yes.

EXHIBITS

EXHIBIT NO. ____ (SDS-1)

STEPHEN D. SHERNER
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Lake Nebagamon, WI 54849

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SUMMARY

An executive with extensive experience in strategic planning, system planning, generation planning and business development, fuels planning, bulk power marketing, system operations and power pooling. Demonstrated negotiating skills and ability to develop strategic (win-win) alliances with key suppliers and customers. Proven proactive, change oriented leadership and team building skills.

PROFESSIONAL EXPERIENCE

SHERNER POWER CONSULTING, Lake Nebagamon WI 2002-Present

Principal

Established independent consulting business to provide high level management and technical advisory consultation in the areas of strategic planning and business development, power system planning and operations, generation and transmission project development, fuel planning, power marketing and contracting, and regional transmission operations/ pooling.

MINNESOTA POWER, Duluth MN

1973-2002(Retired)

President – Rainy River Energy and MP Enterprises and Sr. Vice President – MP Electric

2000-2002

Responsible for leading unregulated power-sourcing development and related power-marketing activities. Leading company-wide strategic fuels planning activities. Key strategic planning role related to industry restructuring and emerging technologies.

- Lead efforts between MAPP and MAIN to create new reliability organization(RRO) and participated in MAPP/MISO merger discussions.
- Facilitated internal regional transmission organization(RTO) decision process.
- Developed distributed generation strategy and opportunities assessment.
- Developed strategy for natural gas supply for new generation positions.
- Developed rail build-out strategy to gain new concessionary contract from rail provider
- Negotiated several long term power sales “off take” contracts for new projects
- Developed 160MW natural gas fired peaking project and necessary approvals to build.

Sr. Vice President – Energy Sourcing and President – Rainy River Energy and MP Enterprises

1998-2000

Provided leadership for all aspects of energy sourcing, fuels and business units. That includes generation operations and development, fuels and coal mining, power marketing and power pooling. Responsible for over 500 employees and operating and construction budgets exceeding \$250 million. Served in both oversight (BOD) and leadership (officer) roles for MP Electric unregulated subsidiaries.

**Sr. Vice President – Energy Sourcing and
President – Rainy River Energy and MP Enterprises**

(continued)

- MPEX continued to implement growth plan with expansion to new Minneapolis offices and exceeded margin goals.
- New 20-year PPA for 225-325MW implemented as part of Square Butte Project refinancing
- Agreements reached for coal supply portfolio through 2003
- Unregulated subsidiary, RREC, committed to long-term PPA for 275MW of output of new combined cycle plant near Chicago
- Restarted two mothballed wood/coal fired generators for summer peaking use
- Generation achieved near record production and availability
- RREC developed and announced plan for new 90MW peaking project

Sr. Vice President - Strategy & Growth/President MP Enterprises 1997-1998

Provided leadership in the identification, assessment and implementation of strategic growth initiatives for MP Electric. Provides liaison and coordinating services between departments and MP Electric leadership group to assure integration of strategies and growth activities. Serves in both oversight (Board of Director) and leadership (Officer) roles for MP Electric unregulated subsidiaries.

- Successful launch of MP Telecom as regional wholesale telecommunication provider.
- Leading the development and facilitation of MP Electric's strategy process.
- Investigating an array of alliance, joint venture and partnering possibilities.

Vice President - Marketing & Customer Service 1995-1996

Provided leadership over MP Electric's marketing and customer service and sales activities with revenues exceeding \$400M annually. Responsible for establishing the vision and strategies to retain and expand the customer base for the coming competitive environment.

- Initiated independent assessment of relationship satisfaction of large industrial accounts, which led to the development of a new key account program with senior executive involvement.
- Participated in negotiation with MP Electric's largest industrial customers that resulted in several new long-term contracts with commitments over \$500MM.
- Launched a new power marketing division (MPEX) which has become the regions most aggressive and fast growing, achieving a tripling of sales in 24 months.
- Launched new industrial energy management and retail marketing initiatives.
- Implemented a new "pool in pool" concept with self generating municipal and industrial customers that resulted numerous multi-year contract extensions.

Vice President - Power Marketing and Delivery

1994-1995

Leadership for all aspects of transmission business unit; planning, engineering, construction, operation and maintenance. Responsible for transmission access and pricing decisions. Responsible for all bulk power, wholesale, and large industrial customer marketing. Responsible for 155 employees and an operating budget of over \$100 million.

- Power Marketing customers represent 70% of the electric utility revenue.
- Negotiated new 10-year contract worth \$142 million in revenue guarantees with National Steel Pellet Company to assist their plant reopening.
- Developed new standby and control area services contract with large industrial self-generator that provided company with over \$2 million in annual revenues.
- Initiated preparation of generic transmission tariff filing including unbundled control area services.

Vice President - Power Sourcing and Delivery

1993-1994

- Prepared and testified in recent rate case on large industrial customer rate design and contract issues, bulk power marketing activities, fuels planning and procurement activities, and future plans.
- Developed innovative fuel pricing partnership arrangements with coal and rail supplies for special off-system sales and competitive real time energy situations.
- Developed new interruptible service offering for large industrial customer. Negotiated required contract extension worth over \$100 million in revenue guarantees.
- Obtained first FERC approvals for innovative capacity option agreement, and energy price risk sharing contract, and an energy price performance contract.
- Chaired pool committee that recently developed and filed a pool wide transmission service charge tariff with FERC.

Vice President - Strategic Resource Management

1991-1993

- Established cross-functional strategic fuels planning activities to develop supply alternatives and procurement approaches.
- Negotiated coal contract buyout and renegotiated rail contracts resulting in a 25% reduction in delivery coal costs. Savings nearly \$25 million annually.
- Established company integrated resource planning capabilities. Utilized stakeholder advisory group to provide guidance. First plan approved by Minnesota commission with minimal issues.

Vice President - System Operations & Planning

1988-1993

- Negotiated and developed \$82 million sale contract and associated O&M partnership agreements for equity sale of 20% interest in largest unit (535MW) to Wisconsin Public Power, Inc.
- Established strategic direction for company to become regional power marketer. Tripled revenue margins over three-year period.

MINNESOTA POWER (Continued)

<u>Director of System Operations</u>	1982
<u>Director of Project Administration</u>	1980
<u>Manager of System Planning</u>	1978
<u>System Performance Engineer</u>	1976
<u>Assistant Transmission Planning Engineer</u>	1975
<u>Assistant Relay Engineer</u>	1973

ROCHESTER GAS & ELECTRIC, Rochester, NY **1970-1973**
Intern Engineer

INDUSTRY AFFILIATIONS

Mid Continent Area Power Pool (MAPP)	
Management and Executive Committee	1991-2002
Transmission Service Charge Advisory Committee - Chairperson	1993-1995
Engineering Committee	1991
Operating Committee (Chairperson 1989)	1982-1990
MAPPCOR Board of Directors	1991-2002
NERC Operating Committee	1987-1988
EPRI Integrated Energy System Divisional Advisory Council	1992-1994
Lignite Energy Council Executive Committee	1990-1994
North Dakota Lignite Research Council Executive Committee	1991-1994

EDUCATION

Alfred Agricultural and Technical College - Associates in Applied Science	1970
Rochester Institute in Technology - Bachelor in Engineering Technology	1973
University of Michigan - Utility Executive Program	1981
EI Senior Middle Management Program	1987
University of Minnesota - Executive Program	1990

REGISTERED PROFESSIONAL ENGINEER in Wisconsin (No. 20552)

REFERENCES

Available upon request.