

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

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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

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

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

**ROBERT A. MANTEY**

**JANUARY 16, 2007**

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1 **EXCELSIOR ENERGY, INC.**

2 **BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION**

3 **PREPARED DIRECT TESTIMONY OF**

4 **ROBERT MANTEY**

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

6 A Robert Mantey. I am a Principal Consultant with Alliance Acoustical  
7 Consultants, Inc., an engineering consulting firm that specializes in noise control,  
8 acoustics, and vibration. The headquarters offices are located at 18023 Sky Park  
9 Circle, Suite H2, Irvine, California 92614.

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

11 A I have over 27 years of technical, project management, and supervisory  
12 experience in the field of applied engineering acoustics and noise control. My  
13 expertise includes environmental/community noise modeling, machinery noise  
14 control, noise monitoring and measurement, noise mitigation strategies, and the  
15 preparation of noise assessments (including NEPA, SEPA, and CEQA  
16 documentation). I have completed noise assessments for a broad range of power  
17 generation, industrial, commercial, residential, entertainment, mixed use, and  
18 transportation projects. I have prepared technical noise studies on scores of power  
19 plants for such end clients as SDG&E, Duke Energy, Reliant Energy, Calpine, ConEd,  
20 Entergy, AES, FPL, TIE, Panda Power, MEGA, TransAlta, Energy NorthWest, Enron,  
21 EMI, and Thermo Ecotek. In the California market, I have reviewed, contributed to,  
22 analyzed, and/or written noise sections for several permit applications to the California  
23 Energy Commission (“CEC”). Prior to co-founding Alliance Acoustical Consultants,

1 Inc., I practiced acoustical engineering at PCR Services Corp., Fluor Daniel,  
2 McDonnell-Douglas Aircraft, Wyle Labs, and Bolt Beranek and Newman (“BBN”). I  
3 have a B.S. degree in Engineering from Harvey Mudd College, Claremont, CA as well  
4 as an Engineer-in-Training (“EIT”) Certificate from the State of California. My  
5 resume is appended as Exhibit \_\_\_\_ (RAM-1).

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

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

10 Scope and Summary

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

12 A The purpose of my testimony is to provide general background information on  
13 the noise impact of the Project. I will also identify the portions of the Joint  
14 Application and Environmental Supplement which I am sponsoring and on which I  
15 will be able to provide testimony.

16 Preparation of the Joint Permit Application and Environmental Supplement

17 **Q Are you available to act as sponsor for particular sections of the Applications?**

18 A. Yes. In particular, I am sponsoring the following sections:

19 **Joint Application**

20 West Range

21 Section 7.9.4 (Construction Noise Impacts)

22 Section 7.9.5 (Operation Noise Impacts)

23 Section 7.9.7 (Railroad Noise and Vibration Impacts)

1            East Range

2            Section 8.9.4 (Construction Noise Impacts)

3            Section 8.9.5 (Operating Noise Impacts: Methodology),

4            Section 8.9.7 (Railroad Noise and Vibration Impacts)

5            **Environmental Supplement**

6            Section 3.10.1 (Construction Noise Levels)

7            Section 3.10.2 (Operational Noise Levels)

8            Section 3.10.4 (Rail Noise and Vibration)

9            Section 3.10.5 (Impact of Construction Noise on Receptors)

10           Section 3.10.6 (Impact of Plant Operation Noise on Receptors)

11           Section 3.10.7 (Impact of Rail Noise and Vibration on Receptors)

12           Section 3.10.9.2 (Mitigation of Facility Noise)

13           Appendix 5 (Noise Evaluation Study)

14           I personally prepared or directly supervised the technical preparation of a  
15           stand-alone report entitled “Noise Evaluation Study for the Excelsior Energy Mesaba  
16           Energy Project,” dated December 2005 and presented to engineering staff members of  
17           Fluor Corporation. This same material was, in parallel, sent to technical staff at Short  
18           Elliott Hendrickson Inc. (“SEH”) for their use in generating the overall project  
19           environmental impact assessment documentation; including the Joint Application and  
20           Environmental Supplement. Parts of these documents are included in the sponsorship  
21           listing above, and I believe these sections or sub-sections to be consistent with the  
22           original report that I prepared.

1 Considerations in Determining Whether to Issue a Site Permit for the Project

2 **Q Please describe the effects on human settlement, particularly the noise impacts.**

3 A Minimal noise impacts may occur during construction, from ongoing plant  
4 operations, and from railroad operations.

5 Construction

6 Construction noise levels were calculated to be below daytime residential  
7 standards (set by the Minnesota Pollution Control Agency (“MPCA”)) at all the  
8 analyzed, nearby receptor locations. However, because of common fluctuations in the  
9 background noise levels and because construction noise is inherently transitory,  
10 construction activities will be discernable at the nearest receptors. For example,  
11 ‘steam blows’ during plant commissioning will be an unavoidable adverse impact, but  
12 ‘steam blow’ discharge piping will be equipped with silencers that would reduce noise  
13 levels by 20 dB to 30 dB at each receptor location; thereby minimizing, to the extent  
14 feasible, these temporary impacts. Likewise, rail construction will result in short-term  
15 temporary noise impacts, particularly when rail construction is close to receptors.

16 Operation of the IGCC Power Station

17 The overall impact of noise from operation will be minimal. Without noise  
18 control features, some nighttime exceedances were predicted at one or more receptor  
19 locations at the West Range Site. Noise mitigation measures are recommended,  
20 therefore, to ensure compliance with the MPCA standards during plant operations at  
21 all West Range receptor locations. To evaluate likely mitigation measures, an iterative  
22 process was used whereby the noise contributors were ranked and the highest  
23 contributors were reduced via the effective application of noise control treatments

1 such as inlet/exhaust silencers or using low-noise equipment. This process was  
2 continued to achieve an efficient, cost-effective, and reasonably-achievable mix of  
3 noise source characteristics that would result in predicted daytime and nighttime  
4 compliance at all receptor locations that currently meet these standards (note that two  
5 receptors are already above the MPCA nighttime limits due to roadway traffic, but that  
6 the noise from the IGCC Power Station would not increase noise levels at these sites).  
7 With mitigation, the MPCA-compliant noise levels would not increase at any nearby  
8 residence by more than one decibel, which is an imperceptible increase. The measures  
9 and features identified will be updated, refined, and confirmed during detailed design  
10 efforts to ensure both project compliance and fit-for-purpose cost control.

11 At the East Range Power Station, no mitigation is necessary because the  
12 facility is predicted to meet state standards at all residential receptors under base case  
13 assumptions.

#### 14 Rail Operation

15 Individual rail operations associated with the Project are expected to be audible  
16 to nearby residents, however, the 24-hr  $L_{DN}$  and  $L_{max}$  metrics are predicted to be below  
17 applicable train noise criteria. The noise associated with train horns represents an  
18 unavoidable adverse impact, which is an allowable condition pursuant to Federal  
19 Railroad Administration regulations.

#### 20 Conclusion

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

22 **A Yes.**

# **EXHIBITS**

**EXHIBIT \_\_\_\_ (RAM-1)**



**ROBERT MANTEY – PRINCIPAL CONSULTANT**  
**Alliance Acoustical Consultants, Incorporated**

**PROFESSIONAL HISTORY:**

- Principal Consultant, **Alliance Acoustical Consultants, Inc.**, 2000 to present
- Section Manager - Noise, Vibration & Acoustics Group, **PCR Services Corporation**, Irvine, California, 1997 - 2000
- Lead Engineer/Senior Engineer, **Fluor Daniel, Inc.**, Irvine, California, 1990 - 1997
- Lead Engineer/Senior Engineer, **Douglas Aircraft Co.**, Long Beach, California, 1988 - 1990
- Research Specialist/Member of the Technical Staff, **Wyle Research Group, Wyle Laboratories**, El Segundo, California, 1981 - 1988
- Acoustical Engineer/Consultant, **Bolt Beranek and Newman, Inc.**, Canoga Park, California, 1979 - 1981
- B.S., Engineering, **Harvey Mudd College**, Claremont, California, 1979

**Certifications & Training:**

- Member, Institute of Noise Control Engineering (INCE)
- TNM and FHWA traffic noise modeling training/certification through HMMH, 2006
- FTA Certification - Transit Noise and Vibration Impact Assessment
- Engineer-In-Training Certificate, EIT, State of California
- Attended several instrumentation and data acquisition seminars given by Brüel and Kjær

**Expertise:**

**ROBERT MANTEY** has more than 27 years of managerial and technical experience in the field of applied engineering acoustics and industrial noise control. His expertise includes environmental/community noise modeling, predictive noise analyses, noise impact assessment & documentation, as well as machinery noise analysis, mitigation, and control. He is experienced in acoustical analysis, modeling, and investigation techniques using both proprietary and commercially-available computer packages. He is also well-versed in field data acquisition/ measurement techniques and noise data processing methodologies. He has consulting experience in residential sound insulation design optimization analyses, aircraft over-flight noise level measurements, and emergency warning system design. Mr. Mantey has training in ISO 9000 implementation, Kepner-Tregoe decision-making and technical contract management. He has foreign assignment experience in Taiwan, Saudi Arabia, Thailand, and Mexico.

**Experience:**

**PROJECT MANAGEMENT / GROUP MANAGEMENT:** For 6 years, Mr. Mantey has been a managing technical principal of an acoustical engineering consulting firm that he co-founded. This consulting firm provides services to both private and government entities in environmental noise assessment, industrial noise control, transportation noise analyses, vibration evaluation, and acoustical project planning. Prior to establishing AAC, Bob was responsible for group management and administrative oversight of several noise control engineering and acoustical specialists at two firms over a span of 10 years. He also was the Project Manager of an industrial noise survey and worker exposure study at a large, Middle-Eastern refinery, and the Project Manager of several power substation noise assessment jobs for a large southern California utility.

Alliance Acoustical Consultants, Incorporated.  
[bmantey@allianceacoustics.com](mailto:bmantey@allianceacoustics.com)

800/664-7318 Voice  
800/664-7340 Fax

**INDUSTRIAL NOISE CONTROL:** Bob has performed environmental noise analysis, predictive design modeling, and worker (OSHA) exposure assessments for hundreds of electrical power generation stations, refinery/hydrocarbon-processing plants, and commercial/industrial facilities. Emphasis was placed on noise control of all types of rotating machinery, cooling equipment, process piping, venting sources, and material handling systems. Project involvement often entails 'cradle-to-grave' services from regulatory review, to ambient baseline surveys, to permitting and impact assessment, to noise control engineering (throughout the design process), to start-up troubleshooting, to verification measurements following commissioning. Noise reduction/mitigation projects – ranging from snack chip production/packaging lines to petrochemical processing complexes – typically have entailed source assessments, mitigation methodology examinations, vendor screenings, benefit estimations, and costing investigations to establish a cost-effective and practical noise reduction approach, while minimizing facility down-time. Most recently, Bob has supported the design teams regarding on-site equipment noise mitigation for two overseas U.S. embassies, while maintaining security and functionality aspects.

**POWER PLANT PERMITTING AND DESIGN SUPPORT:** As a subset of CEQA assessment documentation Bob has reviewed, contributed to, analyzed, and/or written noise sections for many power plant permit applications to the California Energy Commission (CEC). As part of the CEC permitting process, technical noise studies, modeling analyses, Application for Certification (AFC) section generation, response to comments, and/or assistance in public hearings have been performed for the following California power projects: South Bay, Morro Bay, Avenal, Colusa, Tesla, Moss Landing, Rio Linda/Elverta, Mountainview, High Desert, Riverside Canal, and Crockett. Mr. Mantey has also prepared technical noise studies on power plants in 15 other states and in a half-dozen countries for such developers as SDG&E, Duke Energy, Reliant Energy, Calpine, ConEd, Entergy, AES, FPL, TIE, Panda Power, PSE&G, MEGA, TransAlta, Iberdrola, Energy NorthWest, EMI, and Thermo Ecotek.

**NOISE MEASUREMENTS / MONITORING:** Bob has done community/environmental noise data acquisition on industrial facilities, transportation sources, and entertainment venues and he has conducted field studies of machinery noise emissions at several power plants and refineries; both domestic and foreign. Measurements have included frequency-band, time-averaged, and statistical sound level data acquisition/processing techniques. Also, he has performed on-site noise mitigation trouble-shooting at operating facilities, including food-grade facilities, off-shore oil drilling platforms, a CO<sub>2</sub> recovery plant, large refineries, and several power plants.

**TRANSPORTATION:** Currently, Bob is working on a roadway noise impact assessment for a medical office development adjacent to both busy arterial and highway roadways. Bob has performed railway noise and vibration measurements on active freight and commuter rails lines; most recently on the proposed Gold Line commuter rail line in the City of South Pasadena. Bob has also conducted public information presentations and city staff overview briefings for a roadway re-alignment project in the City of Orange. Previously, he carried out field measurements of aircraft fly-over noise for residential sound insulation projects around several major airports, including LAX and John Wayne (SNA). On the analytical side, he helped develop, run, and update computer optimization studies for retrofit sound insulation upgrades for several residential pilot programs at major southern California airports. He helped write a performance specification for an expanded and updated community noise monitoring system at LAX.

**Alliance Acoustical Consultants, Incorporated.**  
[bmantey@allianceacoustics.com](mailto:bmantey@allianceacoustics.com)

**800/664-7318 Voice**  
**800/664-7340 Fax**

**ENVIRONMENTAL NOISE ASSESSMENT AND EIR DOCUMENTATION:** Bob wrote or assisted in the preparation of the noise section and/or noise technical appendix for several California development projects requiring CEQA-based EIR documentation. These projects included the Hollywood & Highland Entertainment Center (the permanent home of the Oscars®), the Warner Center Specific Plan Supplemental EIR, WDI's Grand Central Creative Campus (GC3) studios in the Glendale Redevelopment Center, WDI's Third Gate in the Disneyland Resort Complex, and the LA Equestrian Center. He also performed technical review and helped generate formal responses to comments on the proposed Universal City Specific Plan EIR (for Universal Studios' proposed theme park, retail, and hotel expansion). Bob also generated NEPA documentation for potential noise impacts from a facility expansion/upgrade project on a Veterans Administration Hospital. All of these environmental assessment projects entailed significant noise-related issues and/or potential impacts to surrounding land uses, adjacent residential area, and/or nearby school facilities.

**LEGAL SUPPORT:** Bob has supported legal firms in the environmental application process for several power plant projects, including testifying (sworn-in hearings) before the California Energy Commission on one of the most complicated and involved projects to go before the CEC. In support of a legal firm representing a homeowners' group, Mr. Mantey conducted outdoor noise level measurements in a dispute over potentially intrusive commercial operations. He has also contributed to the litigation support of *LAUSD vs. City of Los Angeles*, concerning noise impacts in a degraded classroom noise environment for the City of Los Angeles' Warner Center Specific Plan.

**ARCHITECTURAL ACOUSTICS:** Bob has modeled and analyzed potential impacts from exterior mechanical equipment onto interior spaces at several commercial facilities, including hospitals and, most recently, two overseas embassies for the U.S. Department of State. Bob also supported the architectural acoustics design efforts for operating spaces inside the City of Long Beach Emergency Operations (911) Center. Previously, he applied theoretical research studies to the practical estimation/assessment of sentence intelligibility parameters inside industrial work spaces. He also evaluated telecommunications effectiveness and alerting capabilities on interior environments in several nuclear power facilities.

**ACOUSTICS RESEARCH:** Bob was the Task Manager on a noise research project for Riverside County aimed at studying the noise emissions, measurement methodologies, and long-range propagation of noise from electricity generation wind turbines. A technical paper was presented at a Wind Turbine Technology Symposium.

Alliance Acoustical Consultants, Incorporated.  
[bmantey@allianceacoustics.com](mailto:bmantey@allianceacoustics.com)

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800/664-7340 Fax