MINNESOTA
ENERGY FACILITY PLANNING

Large Wind Energy Conversion Systems

STATE OF MINNESOTA
PUBLIC UTILITIES COMMISSION

Large Electric Power Generating Plants

MINNESOTA
DEPARTMENT OF
COMMERCE

High Voltage Transmission Lines

Pipelines

CERTIFICATE OF NEED

Large Energy Facility

- Requires certificate of need from the PUC
- Applicant must show that the facility is more cost-effective than energy conservation and load-management measures

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Large Energy Facility

- ≥50 MW power plant, with associated transmission lines
- Transmission line ≥ 200 kV and >1,500 long
- Transmission line ≥100 kV and >10 miles long in MN or crosses a state line
- Pipeline 6” diameter and >50 miles long in MN, carrying coal- or oil-based fuels
- Pipeline carrying natural gas or syngas at >200 psi and >50 miles long in MN
- Facility for storing >100,000 gallons of LNG or syngas
- Certain underground gas storage facilities
- Nuclear fuel processing or nuclear waste storage or disposal facility
- Facility for converting any material into any other combustible fuel and processing >75 tons/hour

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SITING & ROUTING

Power Plant Siting Act

Minnesota PUC has the authority to:

- Site Large Electric Power Generating Plants (LEPGP) and
- Route High Voltage Transmission Lines (HVTL)

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LEPGP and HVTL

LEPGP includes:

- Power plant ≥ 50 MW
- Associated facilities, including
  - Coal pile
  - Cooling towers
  - Ash containment
  - Fuel tanks
  - Wastewater systems

HVTL includes:

- Transmission lines ≥ 100 kV
- Insulators, towers, substations, terminals

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PERMITTING PROCESS

- Two processes available for permitting LEPGPs and HVTLs depending on the type and size of the proposed project.
- **Full Review Process** - may take up to one year.
- **Alternative Review Process -** may take up to six months.
- Both require environmental review and public participation.

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Full Review Process

- Full Review Process:
  - for larger projects
  - applicant must identify preferred & alternative sites/routes
- DOC prepares an EIS
- Contested case hearing must be held before the PUC makes a decision on the matter
- PUC has one year from the time the application is accepted to reach a final decision

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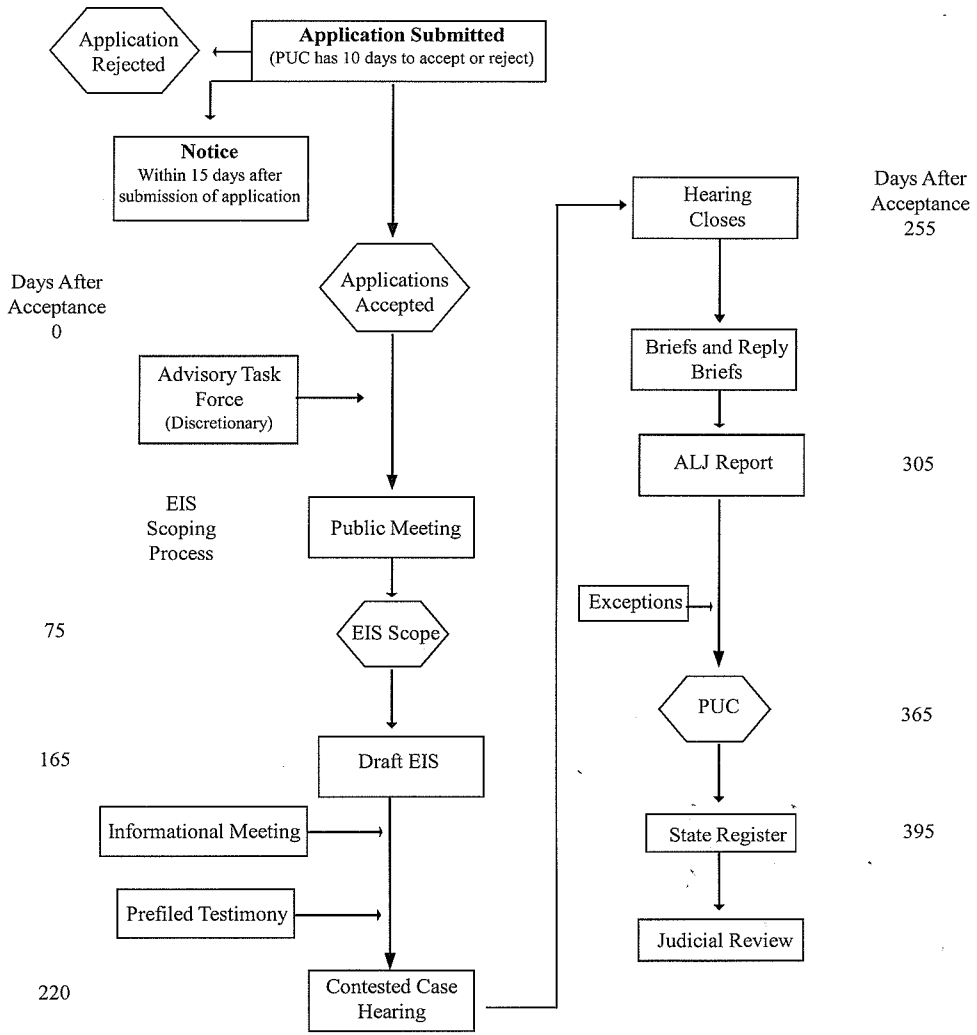
HVTL Route and Power Plant Site
Full Permitting Process
Minn. Rule 4400.1000 to 4400.1900



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Power Plant Siting Act

State agencies having jurisdiction (permit authority) with large energy projects must be involved in siting and routing process

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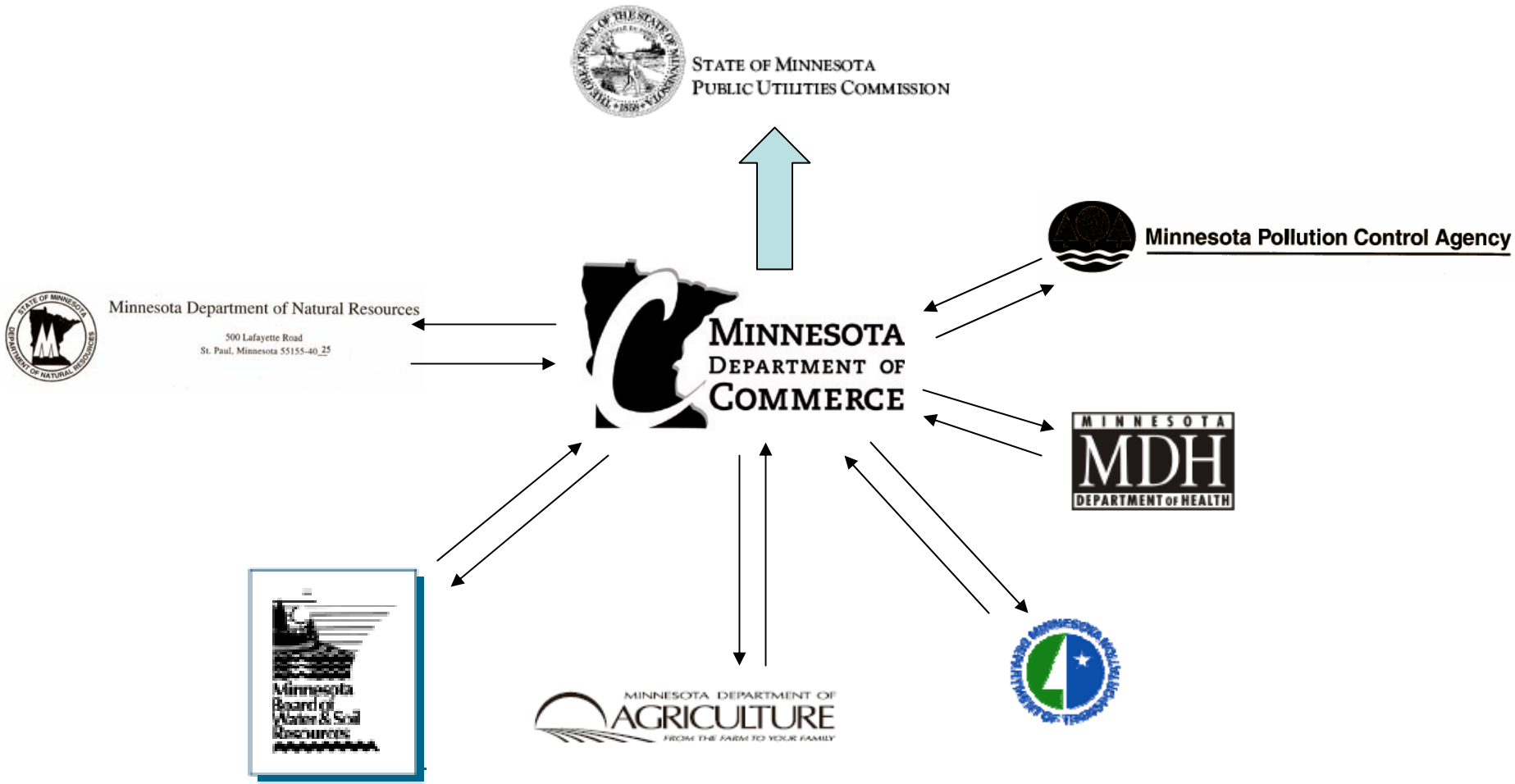
Participating Agencies



Potential "Down-Stream" Permits

List of Permits Potentially Required to Construct and Operate Mesaba One and Two				
Jurisdiction	**Agency**	**Type of Approval**	**Authority**	**Description**
State of Minnesota	Department of Health	Public Water Supply Plan Review	Minn. R. ch. 4720	Required for drinking water systems serving greater than 25 persons
State of Minnesota	Department of Health	Plant Plumbing Plan Review	Minn. R. ch. 4715	Inspection of plumbing system
State of Minnesota	Department of Transportation	Access Permit	Minn. R. 8810.0050	Required whenever there is a request for change in access to or from Mn/DOT rights-of-way
State of Minnesota	Department of Transportation	Construction of Tunnels Under Highways Permit	Minn. R. 8810.3200 - 8810.3600	Utility construction and relocation on trunk highway rights-of-way
State of Minnesota	Department of Transportation	Drainage Permit	Minn. R. 8810.0050	Permit issued for repairs of utility or rebuilding structure (manholes, catch basins, etc) that are already in place.
State of Minnesota	Department of Transportation	Railroad Grade Crossing Operating License	Minn. R. 8830.2150 and 8830.9991	Operating license will be issued upon submittal and approval of railroad grade crossing signal circuit plans.
State of Minnesota	Department of Transportation	Utility Permit on Trunk Highway Right-of-way	Minn. R. 8810.3100 - 8810.3600	Permit required to install/move utilities on highway rights-of-way.
State of Minnesota	Department of Natural Resources	Easement Across State-Owned Land Managed by the Minnesota Department of Natural	Minn. Stat. § 84.63 Minn. Stat. § 84.631	The DNR may issue an easement to cross state-owned lands for the purpose of constructing and maintaining roads
State of Minnesota	Department of Natural Resources	License to Cross Public Lands and Waters	Minn. R. ch. 6135	For installation of utility services (as defined in statute) across DNR administered land and public waters
State of Minnesota	Department of Natural Resources	Open Burning Permit	Minn. Stat. § 88.16	Registering with local forestry office or fire warden is required in forested counties

Potential "Down-Stream" Permits

List of Permits Potentially Required to Construct and Operate Mesaba One and Two				
Jurisdiction	**Agency**	**Type of Approval**	**Authority**	**Description**
State of Minnesota	Department of Natural Resources	Public Waters Work Permit (Protected Waters Permit)	Minn. R. 6115.0110 - 6115.0280	Work permit for activities that change or diminish the course, current or cross section of public waters within the state
State of Minnesota	Department of Natural Resources	Water Appropriation Permit - Long Term (Exceeding two years)	Minn. R. 6115.0600 - 6115.0810 ; 6115.0010	Permit required to appropriate or use waters of the state (ground or surface)
State of Minnesota	Department of Natural Resources	Water Appropriation Permit - Temporary (1-2 year maximum)	Minn. R. 6115.0600 - 6115.0810 ; 6115.0010	General permit notification form for certain temporary appropriations for construction dewatering, landscaping and hydrostatic testing
State of Minnesota	Pollution Control Agency	Underground Storage Tank (UST) Registration	Minn. Stat. § 116.46	Regulated UST systems must be registered
State of Minnesota	Pollution Control Agency	NPDES/SDS Permit	Minn. R. 7001.0020	Permit required for discharging wastewater to waters of United States (NPDES)
State of Minnesota	Pollution Control Agency	NPDES General Industrial Stormwater Permit	Minn. R. 7001.1035	Permit for stormwater discharges associated with industrial activity
State of Minnesota	Pollution Control Agency	NPDES General Construction Stormwater Permit	40 C.F.R. 122.26; Minn. R. 7001.1035	NPDES permit for stormwater discharge required for construction sites disturbing 1 acre or more of land
State of Minnesota	Pollution Control Agency	Hazardous Waste Generator License	Minn. R. 7045.0225	Any business that generates more than 10 gallons of feeable hazardous waste in a calendar year must be licensed and pay an annual fee
State of Minnesota	Pollution Control Agency	Aboveground Storage Tank (AST) Registration	Minn. R. ch. 7001 and 7151	Owners of Aboveground Storage Tanks larger than 110 gallons must notify the Agency
State of Minnesota	Pollution Control Agency	Part 70 Permit	Minn. R. 7007.0200 and 7007.0250	Construction of a major new source meeting specifications in rules must receive an air emissions permit prior to commencement of construction

Potential “Down-Stream” Permits

List of Permits Potentially Required to Construct and Operate Mesaba One and Two				
Jurisdiction	**Agency**	**Type of Approval**	**Authority**	**Description**
State of Minnesota	Department of Public Safety	Fire Sprinkler Systems Plan Review	Minn. R. ch. 7512.1100	Permit for Fire Protection System
State of Minnesota	Department of Public Safety	Flammable Liquid Tanks Plan Review	Minn. Stat. § 299F.011	Aboveground Storage Tank Plan Review for Flammable and Combustible Liquids (Private Motor Vehicle Fuel Dispensing Station)
State of Minnesota	Department of Labor and Industry	Pressure vessels	Minn. R. ch. 5225	Permit required for operation of high pressure vessels
State of Minnesota	State Historical Preservation Office	Cultural Resources Review	36 C.F.R. 800	State review required under National Historic Preservation Act

PIPELINE ROUTING

- PUC Route permit required for pipelines designed to carry natural gas at >275 psi
  - Does not apply to interstate pipelines or natural gas utilities

- Joint Processing allows applicant to combine applications for a LEPGP site permit, HVTL route permit and Pipeline route permit

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Potential Issues Regarding IGCC

- **Unfamiliarity:** Often, the uncertainty of an emerging technology such as IGCC serves as a deterrent to implementation.
- **Cost:** Capital and non-fuel operating costs for IGCC are generally considered to be higher than conventional PC and FBC plants with present-day emissions controls. As future air emissions standards increase the cost of air quality controls for conventional coal technologies, the cost gap should be significantly reduced.
- **Environmental Impacts:** Could impact siting, infrastructure and operation. Current public environmental concerns regarding "**Coal-based**" power.
  - Hg emissions/discharges;
  - CO_2 emissions;
  - Water requirements;
  - Rail and HVTL requirements;

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MINNESOTA
IGCC ENABLING LEGISLATION

“Innovative Energy Project”

The regulatory incentives include:

- “…is exempted from the requirements for a certificate need under section 216B.243, for generation facilities, and transmission infrastructure…”;
- “…has the power of eminent domain, which shall be limited to sites and routes approved by the [PUC]…”; and
- “…shall be entitled to enter into a contract with a public utility that owns a nuclear generation facility in the state to provide 450 megawatts of baseload capacity and energy under long-term contract…” subject to the approval of the PUC.

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Innovative Energy Project Definition

- (1) “that makes use of an innovative generation technology utilizing coal as a primary fuel in a highly efficient combined-cycle configuration with significantly reduced sulfur dioxide, nitrogen oxide, particulate, and mercury emissions from those of traditional technologies”;

- (2) “that the project developer or owner certifies is a project capable of offering a long-term supply contract at a hedged, predictable cost”; and

- (3) “that is designated by the commissioner of the Iron Range Resources and Rehabilitation Board as a project that is located in the taconite tax relief area on a site that has substantial real property with adequate infrastructure to support new or expanded development and that has received prior financial and other support from the board.”

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“Clean Energy Technology”

- (a) “If the commission finds that a clean energy technology is or is likely to be a least-cost resource, including the costs of ancillary services and other generation and transmission upgrades necessary, the utility that owns a nuclear generating facility shall supply at least two percent of the electric energy provided to retail customers from clean energy technology.”

- (b) “Electric energy required by this section shall be supplied by the innovative energy project defined in section 216B.1694, subdivision 1, unless the commission finds doing so contrary to the public interest.”

- (c) “For purposes of this section, "clean energy technology" means a technology utilizing coal as a primary fuel in a highly efficient combined-cycle configuration with significantly reduced sulfur dioxide, nitrogen oxide, particulate, and mercury emissions from those of traditional technologies.”

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Excelsior Energy
Mesaba Energy Project

Excelsior Energy's Proposed Mesaba Energy Project

- Two 606 MW (net) IGCC units on a site in northern Minnesota's Iron Range
- Each unit consists of two 232 MW CTGs and one 300 MW STG
- Three 50% gasifiers – two operating and one spare
- ConocoPhillips' E-GAS™ gasification technology
- "Fuel-flexible" design
  - Sub-bituminous coal (PRB) and bituminous coal (Illinois #6)
  - Petroleum coke
  - Blends of coals and petroleum coke

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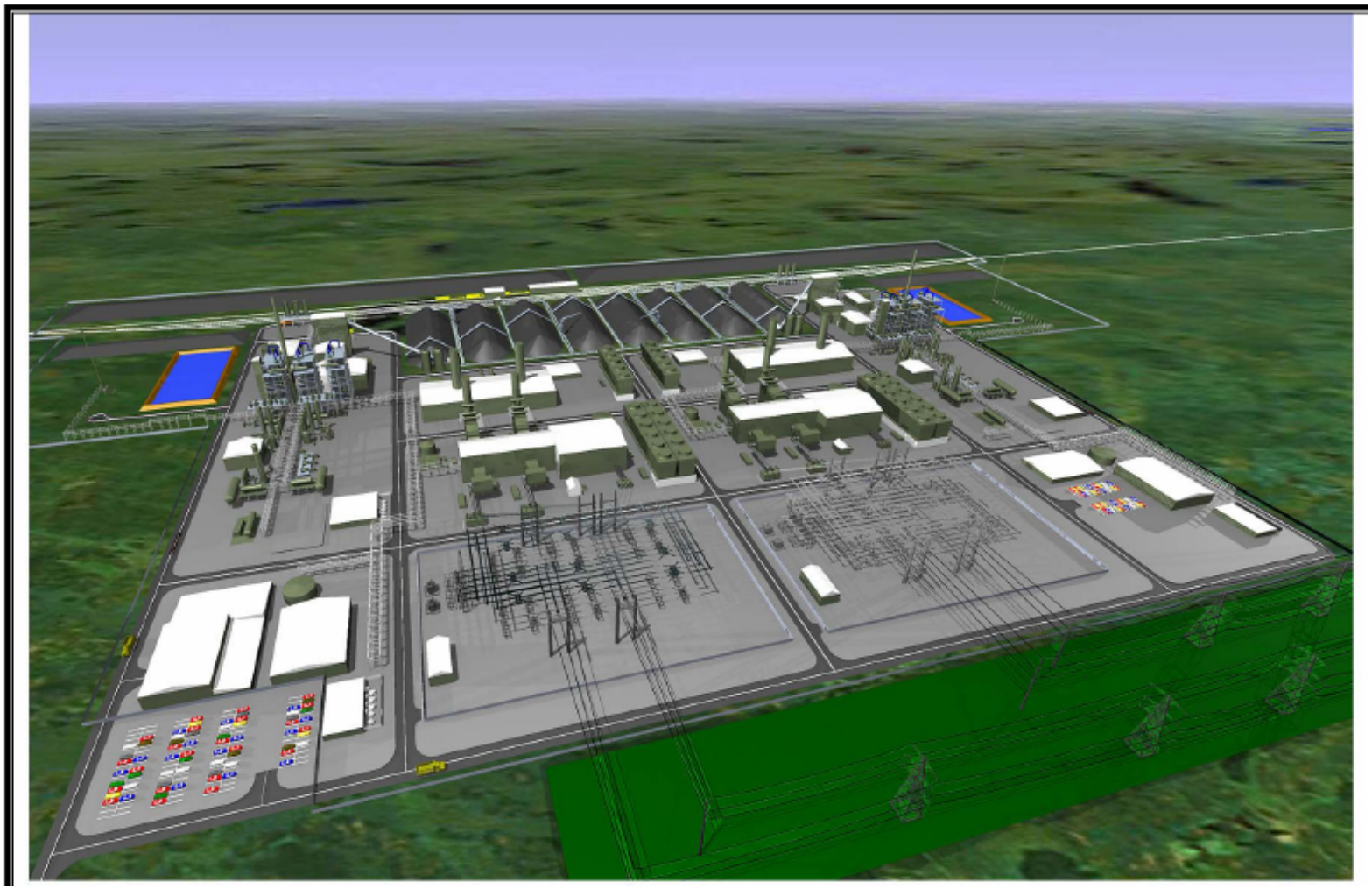
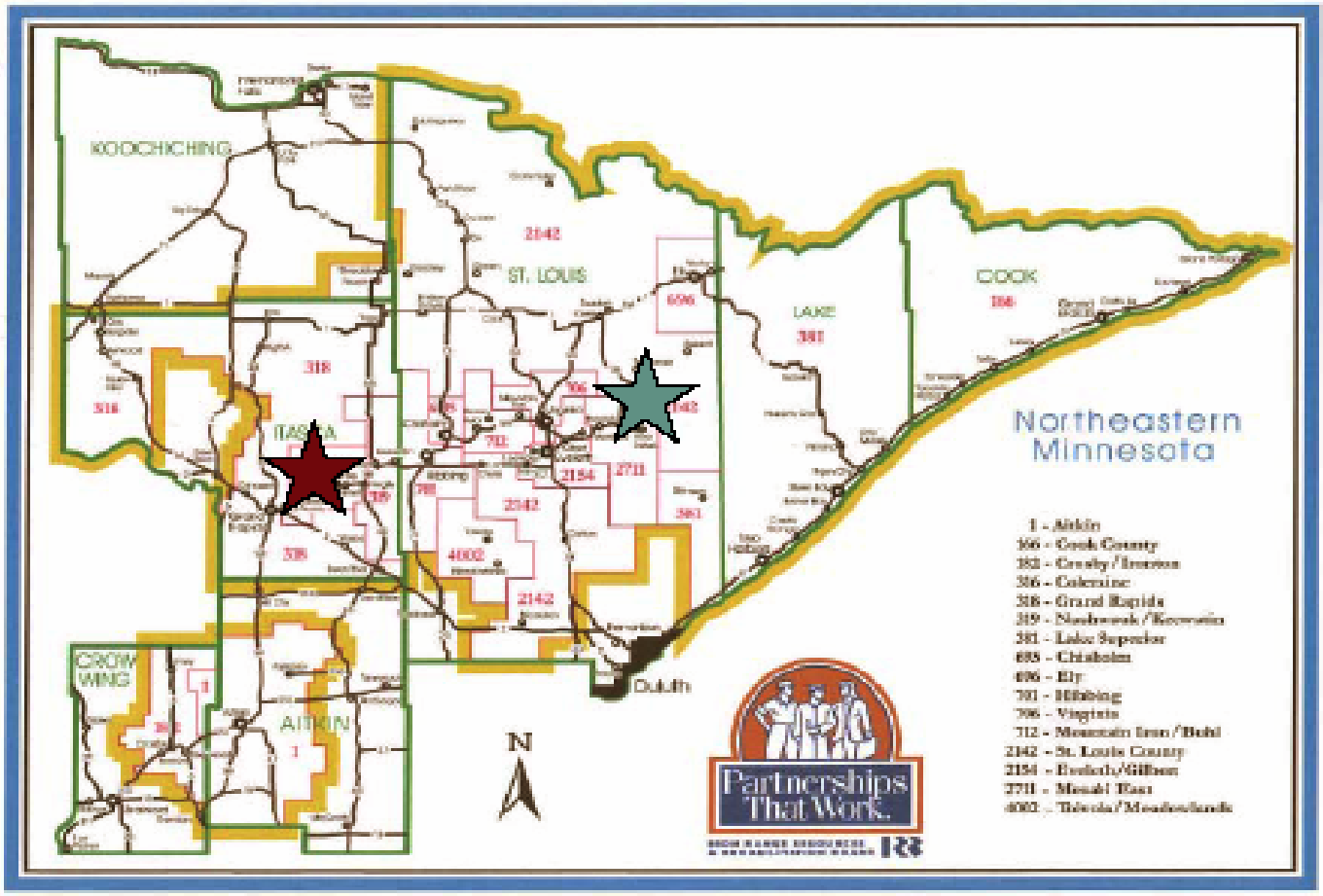
Proposed Mesaba Energy Project



Proposed Mesaba Energy Project



Regional map showing locations of preferred and alternative sites.

Proposed Mesaba Energy Project

- West Range site (~1,260 acres) - north of Taconite in Itasca County
  - connect to the power grid via new and existing HVTL corridors to a substation near Blackberry
  - connect to Great Lakes natural gas pipeline via ~13 mile, 24" diameter pipeline.
- East Range site (~825 acres) - north of Hoyt Lakes in St. Louis County
  - connect to the grid via existing HVTL corridors that lead to a substation near Forbes
  - Connect to Northern Natural Gas pipeline via ~33 mile, 24" diameter pipeline
- Additional transmission network reinforcements required within other existing HVTL corridors leading to load centers and/or at substations down-network of the existing substations

Mesaba Energy Project
PPA

EXCELSIOR ENERGY'S PROPOSED POWER PURCHASE AGREEMENT

MN Public Utilities Commission Proceeding

Contested Case

MnPUC Docket No. E6472/M-05-1993

("05-1993" in edockets)

MINNESOTA DEPARTMENT OF COMMERCE

Mesaba Energy Project
PPA

The Contested Case Will Focus on Three Key Issues:

- Should the PUC approve, disapprove, amend or modify the terms and conditions of a proposed PPA that Excelsior has submitted to Xcel Energy?
- Is the Mesaba Energy Project a least-cost resource?
  - This would require Xcel to use the plant's generation for at least 2% of the energy supplied to its retail customers
- Should at least 13% of the energy supplied to Xcel's retail customers should come from Mesaba Energy Project by 2013?

Minnesota Department of Commerce

Mesaba Energy Project
PPA

- The contested case will be conducted in two phases coinciding with each of the two units

- Phase One (Unit 1) has commenced.
  - Public comment deadline is December 7, 2006.
  - Phase One case will be completed by end of January, 2007
  - PUC will make its decision after that

- Phase Two (Unit 2) case is slated to commence in January, 2007 and be completed in July, 2007.
  - PUC will make its decision after that.

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Mesaba Energy Project
Siting & Routing

EXCELSIOR ENERGY'S

Joint Permit Application

(LEPGP, HVTL & Pipeline)

MN Public Utilities Commission Proceeding

PUC Docket No. E6472/GS-06-668

("06-668" in edockets)

MINNESOTA DEPARTMENT OF COMMERCE

DOE Involvement

- U.S. DOE selected the Mesaba Energy Project for funding under its Clean Coal Power Initiative
- On October 5, 2005, DOE published a Notice of Intent to prepare an EIS
- DOE, and Minnesota DOC and PUC are cooperating to prepare one EIS that will fulfill the requirements of both the Federal and State environmental review processes.

Minnesota Department of Commerce

Mesaba Energy Project
DOE/PUC Tentative Schedule

NEPA MILESTONE SCHEDULE

NOI Published FR	**10/5/05**
DOE Public Scoping Mtg	**10/25-26/05**
Scoping Ends	**11/14/05**
NOA Published in FR	**12/6/06**
EIS NOA in FR	**4/5/077**
ROD Announcement	**5/28/07**

MN EIS PROCESS

Site/Route Permit Submitted	**6/16/06**
PUC Application Accepted	**7/6/06**
EIS Draft Scope	**8/7/06**
State Scoping Migs	**8/21-22/06**
State Scoping Period Ends	**8/29/066**
Draft EIS	**12/6/06**
Public Mtg DEIS	**12/27-8/06**
Contested Case Hearing	**3/19-20/07**
Final EIS	**4/5/07**
Hearing Record Closes	**4/20/07**
ALJ Report	**5/20/07**
PUC Final Decision	**7/16/07**
State Register	**8/7/06**

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MPUC Energy Facility Permitting Web-site
http://energyfacilities.puc.state.mn.us/

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Facility Permitting

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Project docket

Return to Docket List

Docket No: 05-94-PPS-Excelsior Energy
Project Name: Mesaba Energy Project
Description: Excelsior Energy, Inc. proposes to construct a 531 MW Integrated Gasification Combined Cycle (IGCC) large electric power generating plant (LEPGP) on the Iron Range tax relief area
Subjects: Environmental policy; Power plants
Geographic region: Minnesota; Twin Cities Metropolitan Area; Twin Cities Metropolitan Area
Docket created: March 14, 2005
Staff contact(s): Bill Storm, 651-296-9535
Mailing list: register
Intranet option: download mailing list (In development)

File register

Date	Document name	Description
May 5, 2006	DNR Comment Letter on the Draft Joint Permit Application for the Mesaba Energy Project | Letter details	The DNR has reviewed the Draft LEPGP/HVTL/Pipeline permit application for Excelsior Energy's proposed Mesaba project
May 4, 2006	MPCA Comment Letter on the Draft Joint Permit Application for the Mesaba Energy Project | Letter details	Pursuant to agreements with the MDOC, the MPCA staff has reviewed the pertinent sections of the draft LEPGP/HVTL/Pipeline permit application submitted by Excelsior Energy for the Mesaba Energy Project
December 14, 2005	US EPA letter addressing EIS scope | Letter details	US EPA comments on EIS scoping
November 21, 2005	Public Comment/Response to DOE Scoping Meeting | Comment details	Additional public comments
November 21, 2005	Public Comments/Response to DOE Scoping Meeting | Comment details	Various public comments

October 26, 2005	Transcript of Proceedings: Mesaba Energy Project Public Scoping Meeting, Hoyt Lakes | Affidavit details	Transcript of public meeting
October 26, 2005	DOE Scoping Power Point Presentation | Presentation details	October 25th & 26th DOE Presentation
October 25, 2005	Transcript of Proceeding: Mesaba Energy Project Public Scoping Meeting, Taconite | Affidavit details	Public Meeting Transcript
October 5, 2005	Department of Energy: Notice of Intent Published in Federal Register | Notice details	The DOE announces its intent to prepare an EIS pursuant to the NEPA to assess the potential environmental impacts of a project proposed by Excelsior Energy, Inc
August 29, 2005	Excelsior Energy, Inc.: Press Release | Publication details	Excelsior Energy announced it has selected the preferred and alternative sites for its Mesaba Energy Project Unit I
August 9, 2005	DOE Cooperative Agency Letters | Letter details	Please reply at your earliest convenience to indicate whether your agency has an interest in becoming a cooperating agency on the EIS
June 1, 2005	Excelsior Energy annouces candidate sute for the Mesaba Energy Project | Notice details	Potential location for Iron Range electric power facility
March 14, 2005	Letter from Excelsior Energy Inc. requesting EQB to establish a docket for the Mesaba Energy Project | Letter details	Mesaba Energy Project

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User address: 10.0.1.1 Allowed addresses: 156.99.105; 156.98.2; 209.98.250.11

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