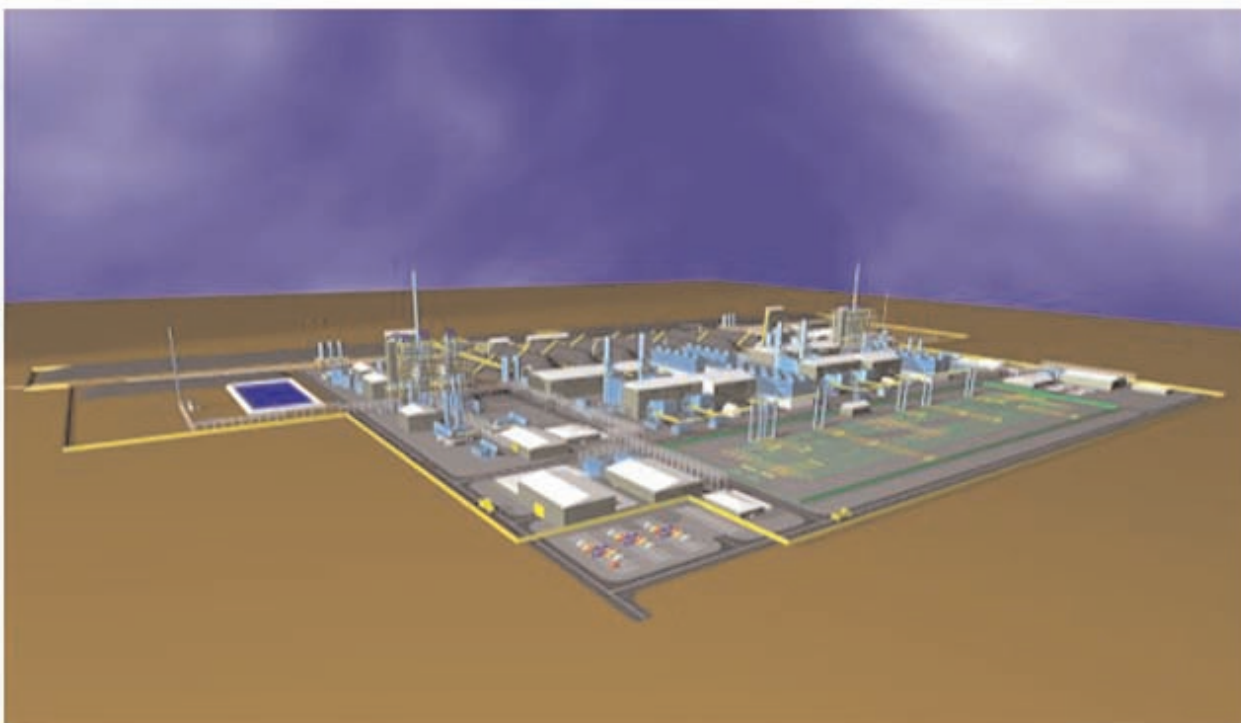


**U.S. Department of Energy
in cooperation with
Minnesota Department of Commerce**

MESABA ENERGY PROJECT

DRAFT ENVIRONMENTAL IMPACT STATEMENT VOLUME I

**DOE/EIS-0382D
MN PUC DOCKET # E6472/GS-06-668**



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**Office of Fossil Energy
National Energy Technology Laboratory**



TABLE OF CONTENTS

SUMMARY	S-1
PROPOSED ACTION	S-2
DOE Proposed Action and Alternatives	S-2
Alternatives Available to the Minnesota Public Utilities Commission	S-5
Excelsior’s Proposed Project and Alternatives	S-5
EIS SCOPING	S-21
DOE Scoping Process	S-21
MDOC Scoping Process	S-21
Scoping Issues	S-22
ENVIRONMENTAL IMPACTS	S-24
1. PURPOSE AND NEED	1-1
1.1 INTRODUCTION	1-1
1.2 CLEAN COAL POWER INITIATIVE (CCPI)	1-3
1.3 PROPOSED ACTION	1-5
1.3.1 Project Proponent Proposed Action	1-5
1.3.2 DOE Proposed Action	1-6
1.3.3 State Proposed Action	1-6
1.4 PURPOSE AND NEED FOR ACTION	1-6
1.4.1 Purpose of the Agency Action and Proposed Project	1-6
1.4.2 Need for the Agency Action and Proposed Project	1-8
1.5 REGULATORY FRAMEWORK	1-9
1.5.1 National Environmental Policy Act (NEPA)	1-9
1.5.2 State Requirements	1-11
1.6 SCOPE OF THIS EIS	1-16
1.6.1 Federal NEPA Scoping Process	1-16
1.6.2 Minnesota EIS Scoping Process	1-21
1.6.3 Special CCPI Program Considerations under NEPA	1-23
1.6.4 Connected Actions	1-24
2. PROPOSED ACTION AND ALTERNATIVES	2-1
2.1 INTRODUCTION	2-1
2.1.1 Proposed Agency Action and Alternatives Considered by DOE	2-1
2.1.2 Proposed Project and Alternatives Considered by Excelsior	2-5
2.1.3 Alternatives Available to the Minnesota Public Utilities Commission	2-10
2.2 DESCRIPTION OF THE PROPOSED PROJECT	2-11
2.2.1 Technology Selection and Process Description	2-11
2.2.2 Resource Requirements (and Inputs)	2-27
2.2.3 Discharges, Wastes, and Products (Outputs)	2-33
2.2.4 Construction Plans	2-44
2.2.5 Operational Plans	2-46
2.3 DESCRIPTION OF ALTERNATIVE SITES AND CORRIDORS	2-50
2.3.1 West Range Site and Corridors	2-50
2.3.2 East Range Site and Corridors	2-66
2.4 SUMMARY COMPARISON OF ALTERNATIVES AND IMPACTS	2-78
3. AFFECTED ENVIRONMENT	3-1
3.1 CHAPTER OVERVIEW	3-1
3.2 AESTHETICS	3.2-1
3.2.1 Background and Definitions	3.2-1

3.2.2	Viewsheds.....	3.2-2
3.2.3	Scenic Resources	3.2-8
3.3	AIR QUALITY AND CLIMATE	3.3-1
3.3.1	Sensitive Air Quality Receptors.....	3.3-1
3.3.2	Local and Regional Climate.....	3.3-1
3.3.3	Local and Regional Air Quality.....	3.3-3
3.3.4	Pertinent Air Quality Regulations.....	3.3-7
3.4	GEOLOGY AND SOILS	3.4-1
3.4.1	Geology.....	3.4-1
3.4.2	Mineral Resources and Mining.....	3.4-7
3.4.3	Seismic Activity.....	3.4-10
3.4.4	Paleontological Resources	3.4-14
3.4.5	Soils	3.4-14
3.4.6	Prime Farmland.....	3.4-17
3.4.7	Suitable Formations for Geologic Sequestration of Carbon Dioxide	3.4-20
3.5	WATER RESOURCES	3.5-1
3.5.1	West Range Site and Corridors.....	3.5-1
3.5.2	East Range Site and Corridors	3.5-14
3.6	FLOODPLAINS	3.6-1
3.6.1	Local Hydrology Features.....	3.6-1
3.6.2	Flood Hazard Areas	3.6-1
3.7	WETLANDS	3.7-1
3.7.1	Introduction.....	3.7-1
3.7.2	Regulatory Framework	3.7-1
3.7.3	Wetland Classification Systems.....	3.7-2
3.7.4	Wetland Identification and Mapping Methodology.....	3.7-3
3.7.5	Wetlands within the West Range Site Buffer Land and Utility and Transportation Corridors	3.7-7
3.7.6	Wetlands within the East Range Site Buffer Land and Utility and Transportation Corridors	3.7-12
3.8	BIOLOGICAL RESOURCES.....	3.8-1
3.8.1	Terrestrial Communities	3.8-1
3.8.2	Aquatic Communities	3.8-12
3.8.3	Protected Species and Habitats	3.8-14
3.9	CULTURAL RESOURCES	3.9-1
3.9.1	Regional Setting.....	3.9-1
3.9.2	Archaeological Resources.....	3.9-2
3.9.3	Historic Resources	3.9-4
3.9.4	Native American Resources.....	3.9-8
3.10	LAND USE.....	3.10-1
3.10.1	Existing Land Use.....	3.10-1
3.10.2	Zoning Ordinances.....	3.10-8
3.10.3	Land Use Planning.....	3.10-9
3.11	SOCIOECONOMICS	3.11-1
3.11.1	Demographics	3.11-1
3.11.2	Housing.....	3.11-4
3.11.3	Employment and Income	3.11-6
3.11.4	Business and Economy	3.11-8
3.12	ENVIRONMENTAL JUSTICE	3.12-1
3.12.1	Background and Definitions	3.12-1
3.12.2	Minority Populations	3.12-1

3.12.3	Low Income Populations	3.12-3
3.13	COMMUNITY SERVICES	3.13-1
3.13.1	Law Enforcement.....	3.13-1
3.13.2	Emergency Response.....	3.13-1
3.13.3	Parks and Recreation.....	3.13-2
3.13.4	School Systems	3.13-3
3.14	UTILITY SYSTEMS.....	3.14-1
3.14.1	Potable Water Supply	3.14-1
3.14.2	Sanitary Wastewater	3.14-1
3.14.3	Electricity.....	3.14-2
3.14.4	Natural Gas	3.14-3
3.15	TRAFFIC AND TRANSPORTATION.....	3.15-1
3.15.1	Regional Transportation System.....	3.15-1
3.15.2	Roadway System and Local Traffic.....	3.15-2
3.15.3	Rail System.....	3.15-6
3.16	MATERIALS AND WASTE MANAGEMENT	3.16-1
3.16.1	Regional and Local Conditions.....	3.16-1
3.16.2	West Range Site and Corridors Site Assessment.....	3.16-3
3.16.3	East Range Site and Corridors Site Assessment	3.16-4
3.17	SAFETY AND HEALTH.....	3.17-1
3.17.1	Occupational Safety and Health.....	3.17-1
3.17.2	Transportation Safety.....	3.17-1
3.17.3	Community Health Issues.....	3.17-4
3.17.4	Sensitive Receptors and Chemicals of Potential Concern	3.17-6
3.17.5	Electromagnetic Fields.....	3.17-7
3.18	NOISE.....	3.18-1
3.18.1	Background.....	3.18-1
3.18.2	Existing Noise Levels	3.18-5
4.	ENVIRONMENTAL CONSEQUENCES.....	4-1
4.1	CHAPTER OVERVIEW	4-1
4.2	AESTHETICS	4.2-1
4.2.1	Approach to Impacts Analysis	4.2-1
4.2.2	Common Impacts of the Proposed Action	4.2-2
4.2.3	Impacts on West Range Site and Corridors	4.2-3
4.2.4	Impacts on East Range Site and Corridors.....	4.2-10
4.2.5	Impacts of the No Action Alternative	4.2-15
4.2.6	Summary of Impacts	4.2-15
4.3	AIR QUALITY AND CLIMATE (INCLUDING GREENHOUSE GASES)	4.3-1
4.3.1	Approach to Impacts Analysis	4.3-1
4.3.2	Common Impacts of the Proposed Action	4.3-3
4.3.3	Impacts on West Range Site and Corridors	4.3-9
4.3.4	Impacts on East Range Site and Corridors.....	4.3-17
4.3.5	Additional Impact Analysis	4.3-20
4.3.6	Impacts of the No Action Alternative	4.3-27
4.3.7	Summary of Impacts	4.3-28
4.3.8	Air Permitting and Mitigation Issues.....	4.3-32
4.4	GEOLOGY AND SOILS	4.4-1
4.4.1	Approach to Impacts Analysis	4.4-1
4.4.2	Common Impacts of the Proposed Action	4.4-2
4.4.3	Impacts on West Range Site and Corridors	4.4-4
4.4.4	Impacts on East Range Site and Corridors.....	4.4-9

4.4.5	Impacts of the No Action Alternative	4.4-12
4.4.6	Summary of Impacts	4.4-13
4.5	WATER RESOURCES	4.5-1
4.5.1	Approach to Impacts Analysis	4.5-1
4.5.2	Common Impacts of the Proposed Action	4.5-1
4.5.3	Impacts on the West Range Site and Corridors	4.5-7
4.5.4	Impacts on East Range Site and Corridors.....	4.5-31
4.5.5	Impacts of the No Action Alternative	4.5-41
4.5.6	Summary of Impacts	4.5-41
4.6	FLOODPLAINS	4.6-1
4.6.1	Approach to Impacts Analysis	4.6-1
4.6.2	Common Impacts of the Proposed Action	4.6-1
4.6.3	Impacts on West Range Site and Corridors	4.6-1
4.6.4	Impacts on East Range Site and Corridors.....	4.6-2
4.6.5	Impacts of the No Action Alternative	4.6-3
4.6.6	Summary of Impacts	4.6-3
4.6.7	Floodplain Mitigation Issues.....	4.6-4
4.7	WETLANDS	4.7-1
4.7.1	Approach to Impacts Analysis	4.7-1
4.7.2	Common Impacts of the Proposed Action	4.7-2
4.7.3	Impacts on West Range Site and Corridors	4.7-4
4.7.4	Impacts on East Range Site and Corridors.....	4.7-18
4.7.5	Impacts of the No Action Alternative	4.7-29
4.7.6	Summary of Impacts	4.7-29
4.7.7	Wetland Permitting and Mitigation Issues.....	4.7-32
4.8	BIOLOGICAL RESOURCES	4.8-1
4.8.1	Approach to Impacts Analysis	4.8-1
4.8.2	Common Impacts of the Proposed Action	4.8-1
4.8.3	Impacts on West Range Site and Corridors	4.8-5
4.8.4	Impacts on East Range Site and Corridors.....	4.8-24
4.8.5	Impacts of the No Action Alternative	4.8-39
4.8.6	Summary of Impacts	4.8-40
4.8.7	Biological Resources Regulatory Implications and Mitigation	4.8-43
4.9	CULTURAL RESOURCES	4.9-1
4.9.1	Approach to Impacts Analysis	4.9-1
4.9.2	Common Impacts of the Proposed Action	4.9-2
4.9.3	Impacts on West Range Site and Corridors	4.9-3
4.9.4	Impacts on East Range Site and Corridors.....	4.9-5
4.9.5	Impacts of the No Action Alternative	4.9-8
4.9.6	Summary of Impacts	4.9-9
4.10	LAND USE.....	4.10-1
4.10.1	Approach to Impacts Analysis	4.10-1
4.10.2	Common Impacts of the Proposed Action	4.10-1
4.10.3	Impacts on West Range Site and Corridors	4.10-2
4.10.4	Impacts on East Range Site and Corridors.....	4.10-4
4.10.5	Impacts of the No Action Alternative	4.10-5
4.10.6	Summary of Impacts	4.10-6
4.11	SOCIOECONOMICS	4.11-1
4.11.1	Approach to Impacts Analysis	4.11-1
4.11.2	Common Impacts of the Proposed Action	4.11-2
4.11.3	Impacts on West Range Site and Corridors	4.11-6

4.11.4	Impacts on East Range Site and Corridors.....	4.11-8
4.11.5	Impacts of the No Action Alternative.....	4.11-10
4.11.6	Summary of Impacts.....	4.11-10
4.12	ENVIRONMENTAL JUSTICE.....	4.12-1
4.12.1	Approach to Impacts Analysis.....	4.12-1
4.12.2	Impacts on West Range Site and Corridors.....	4.12-2
4.12.3	Impacts on East Range Site and Corridors.....	4.12-2
4.12.4	Health Risk-related Environment Justice Impacts.....	4.12-3
4.12.5	Impacts of the No Action Alternative.....	4.12-4
4.12.6	Summary of Impacts.....	4.12-4
4.13	COMMUNITY SERVICES.....	4.13-1
4.13.1	Approach to Impacts Analysis.....	4.13-1
4.13.2	Common Impacts of the Proposed Action.....	4.13-1
4.13.3	Impacts on West Range Site and Corridors.....	4.13-3
4.13.4	Impacts on East Range Site and Corridors.....	4.13-5
4.13.5	Impacts of the No Action Alternative.....	4.13-6
4.13.6	Summary of Impacts.....	4.13-7
4.14	UTILITY SYSTEMS.....	4.14-1
4.14.1	Approach to Impacts Analysis.....	4.14-1
4.14.2	Common Impacts of the Proposed Action.....	4.14-1
4.14.3	Impacts on West Range Site and Corridors.....	4.14-3
4.14.4	Impacts on East Range Site and Corridors.....	4.14-9
4.14.5	Impacts of the No Action Alternative.....	4.14-10
4.14.6	Summary of Impacts.....	4.14-11
4.15	TRAFFIC AND TRANSPORTATION.....	4.15-1
4.15.1	Approach to Impacts Analysis.....	4.15-1
4.15.2	Common Impacts of the Proposed Action.....	4.15-2
4.15.3	Impacts on West Range Site and Corridors.....	4.15-4
4.15.4	Impacts on East Range Site and Corridors.....	4.15-8
4.15.5	Impacts of the No Action Alternative.....	4.15-11
4.15.6	Summary of Impacts.....	4.15-12
4.16	MATERIALS AND WASTE MANAGEMENT.....	4.16-1
4.16.1	Approach to Impacts Analysis.....	4.16-1
4.16.2	Common Impacts of the Proposed Action.....	4.16-1
4.16.3	Impacts on West Range Site and Corridors.....	4.16-13
4.16.4	Impacts on East Range Site and Corridors.....	4.16-13
4.16.5	Impacts of the No Action Alternative.....	4.16-14
4.16.6	Summary of Impacts.....	4.16-14
4.17	SAFETY AND HEALTH.....	4.17-1
4.17.1	Approach to Impacts Analysis.....	4.17-1
4.17.2	Common Impacts of the Proposed Action.....	4.17-5
4.17.3	Corridor-Specific Impacts.....	4.17-9
4.17.4	Intentional Destructive Acts.....	4.17-13
4.17.5	Impacts of the No Action Alternative.....	4.17-14
4.17.6	Summary of Impacts.....	4.17-14
4.18	NOISE.....	4.18-1
4.18.1	Approach to Impacts Analysis.....	4.18-1
4.18.2	Impacts of the Proposed Action.....	4.18-7
4.18.3	Impacts of No Action Alternative.....	4.18-17
4.18.4	Summary of Impacts.....	4.18-18
4.18.5	Plant Noise and Mitigation Issues.....	4.18-19

5. SUMMARY OF ENVIRONMENTAL CONSEQUENCES.....5.1-1
5.1 COMPARATIVE IMPACTS OF ALTERNATIVES 5.1-1
5.1.1 Summary Comparison of Alternatives and Impacts 5.1-1
5.1.2 Impacts of Commercial Operation..... 5.1-1
5.2 POTENTIAL CUMULATIVE IMPACTS.....5.2-1
5.2.1 Approach and Analytical Perspective 5.2-1
5.2.2 Air Quality 5.2-1
5.2.3 Air Inhalation Health Risk..... 5.2-9
5.2.4 Water Resources 5.2-13
5.2.5 Wetlands 5.2-16
5.2.6 Wildlife Habitat 5.2-20
5.2.7 Rail Traffic..... 5.2-30
5.3 MITIGATION OF IMPACTS 5.3-1
5.3.1 Mitigation Measures 5.3-1
5.3.2 Additional Mitigation Options 5.3-6
5.4 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS 5.4-1
5.5 RELATIONSHIP BETWEEN SHORT-TERM USES OF THE ENVIRONMENT AND THE
MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY 5.5-1
6. REGULATORY AND PERMIT REQUIREMENTS.....6-1
7. AGENCIES AND TRIBES CONTACTED7-1
8. DISTRIBUTION LIST8-1
9. REFERENCES9-1
10. LIST OF PREPARERS 10-1

LIST OF APPENDICES

APPENDIX A CARBON CAPTURE AND SEQUESTRATION

- A1 EXCELSIOR’S PLAN FOR CARBON CAPTURE AND SEQUESTRATION
- A2 DOE ANALYSIS OF FEASIBILITY OF CARBON CAPTURE AND SEQUESTRATION
FOR THE MESABA ENERGY PROJECT

APPENDIX B AIR QUALITY ANALYSIS DATA

APPENDIX C AIR EMISSION RISK ANALYSIS DATA

APPENDIX D CUMULATIVE IMPACT ANALYSES

- D1 AIR
- D2 HEALTH RISK
- D3 WATER RESOURCES
- D4 WETLANDS
- D5 WILDLIFE HABITAT
- D6 RAIL TRAFFIC

APPENDIX E CONSULTATION

APPENDIX F WETLANDS DOCUMENTS

- F1 DOCUMENTATION FOR USACE
- F2 FLOODPLAIN AND WETLANDS ASSESSMENT

APPENDIX G MDOC SCOPING DECISION

APPENDIX H PROCESS WATER DISCHARGE ALTERNATIVES (WEST RANGE SITE)

LIST OF TABLES

Table S-1. Key Technology Aspects of the Mesaba Energy Project	S-6
Table S-2. Expected Operating Characteristics – Mesaba Energy Project (Total for Phases I and II, except where noted).....	S-9
Table S-3. Key Pollution Prevention, Recycling and Reuse Features	S-10
Table S-4. West Range Site Features.....	S-12
Table S-5. East Range Site Features	S-17
Table S-6. Summary Comparison of Impacts (Phases I & II)	S-25
Table 1.6-1. Issues Identified in the NOI for Consideration in the EIS	1-17
Table 2.1-1. Expected Operating Characteristics – Mesaba Energy Project (Total for Phases I and II, except where noted)	2-6
Table 2.2-1. Principal Buildings Associated with Phase I of the Mesaba Generating Station	2-12
Table 2.2-2. Major Process Equipment.....	2-13
Table 2.2-3. Process Water Requirements	2-29
Table 2.2-4. Feedstock and Byproduct Storage Requirements for Each Phase	2-33
Table 2.2-5. Onsite Toxic and Hazardous Materials (Totals for Phase I and II)	2-40
Table 2.2-6. Key Pollution Prevention, Recycling and Reuse Features	2-42
Table 2.2-7. Estimated Operating Staff Required for the Mesaba Generating Station.....	2-48
Table 2.2-8. Key Performance Indicators Used to Assess Worst Case Environmental Impacts or Emissions of Mesaba Energy Project (Phase I, PSQ Mode).....	2-49
Table 2.3-1. Rail Access Alternatives – West Range Site	2-54
Table 2.3-2. Estimated Wastewater Discharge Rates to Receiving Waters – West Range Site	2-57
Table 2.3-3. Natural Gas Pipeline Alternative Routes – West Range Site	2-61
Table 2.3-4. Rail Access Alternatives – East Range Site	2-68
Table 2.3-5. Process Water Sources – East Range Site	2-71
Table 2.4-1. Summary Comparison of Impacts (Phases I & II).....	2-79
Table 3.2-1. Public Lands in the Vicinity of the West Range.....	3.2-12

Table 3.2-2. Public Lands in the Vicinity of the East Range.....	3.2-13
Table 3.3-1. National and Minnesota Ambient Air Quality Standards.....	3.3-3
Table 3.3-2. Monitored Background Concentrations.....	3.3-5
Table 3.3-3. Allowable PSD Increments	3.3-6
Table 3.3-4. Distances to Class I Areas	3.3-6
Table 3.3-5. Pertinent Air Quality Regulations	3.3-8
Table 3.4-1. Bedrock Geology at the West and East Range Sites	3.4-2
Table 3.4-2. Quaternary Geology at the West and East Range Sites.....	3.4-5
Table 3.4-3. Minnesota Earthquakes within the Last 100 Years	3.4-13
Table 3.4-4. Soil Types along the West Range Site and Corridors.....	3.4-16
Table 3.5-1. Surface Water Bodies	3.5-2
Table 3.5-2. Capacity of West Range Mine Pits (November 2005)	3.5-5
Table 3.5-3. Existing Water Appropriation Permits for Surface Waters Near The West Range Site....	3.5-5
Table 3.5-4. Current Water Quality for West Range Water Bodies	3.5-9
Table 3.5-5. Pumping Groundwater Elevations City Municipal Wells	3.5-11
Table 3.5-6. East Range Surface Water Bodies	3.5-17
Table 3.5-7. Abandoned Mine Pit Water Sources.....	3.5-18
Table 3.5-8. Water Quality Data for East Range Water Sources.....	3.5-19
Table 3.6-1. Communities with Potentially Affected Floodplains near the East Range Site.....	3.6-2
Table 3.7-1. Wetland Types and Definitions in Minnesota	3.7-2
Table 3.7-2. Summary of Delineated Wetlands within the West Range Site	3.7-8
Table 3.7-3. Summary of Delineated Wetlands within Utility and Transportation Corridors (West Range Site).....	3.7-9
Table 3.7-4. Utility and Corridor Crossings of Surface Waters (West Range Site)	3.7-12
Table 3.7-5. Wetland Types (East Range Site and Associated Corridors)	3.7-12
Table 3.7-6. Utility and Transportation Corridor Crossings of Surface Waters (East Range Site)	3.7-15
Table 3.8-1. Terrestrial Land Cover Types from LandSat-Based Land Use-Land Cover	3.8-4

Table 3.8-2. Terrestrial Land Cover Types within Utility and Transportation Corridor ROWs (West Range Site).....	3.8-5
Table 3.8-3. Avifauna Potentially Utilizing Wetland Habitat (West Range Site)	3.8-7
Table 3.8-4. Terrestrial Land Cover Types Encountered within the Utility and Transportation Corridor ROWs (East Range Site).....	3.8-10
Table 3.8-5. MNDNR NHIS Plant Species Occurrences in the Vicinity of the West Range Site.....	3.8-16
Table 3.8-6. MNDNR NHIS Species Occurrences within 1 Mile of Transportation or Utility Corridors (West Range Site)	3.8-18
Table 3.8-7. MNDNR NHIS Species Occurrences within 1 Mile of Transportation or Utility Corridors (West Range Site)	3.8-19
Table 3.8-8. MNDNR NHIS Species Occurrences within 1 Mile of Transportation or Utility Corridors Associated (East Range Site)	3.8-20
Table 3.9-1. Archaeological Sites Previously Identified Within the Study Area	3.9-3
Table 3.9-2. Historic Properties Within the West Range Site APE.....	3.9-4
Table 3.9-3. Historic Properties Within the East Range Site APE	3.9-6
Table 3.9-4. List of Contacted Native American Tribes and Reservations.....	3.9-8
Table 3.11-1. Population Trends by County for Arrowhead Region.....	3.11-2
Table 3.11-2. The 10 Largest Municipalities in Northeast Minnesota (2002).....	3.11-2
Table 3.11-3. Local Population Change, West Range (1990 to 2000).....	3.11-3
Table 3.11-4. Population Trend in Taconite (1980 to 2004).....	3.11-3
Table 3.11-5. Population Trend in Hoyt Lakes (1980 to 2004).....	3.11-4
Table 3.11-6. Itasca County Housing Characteristics (2000)	3.11-5
Table 3.11-7. St. Louis County Housing Characteristics (2000)	3.11-6
Table 3.12-1. National and Regional Population Distributions (2000).....	3.12-2
Table 3.12-2. Population Profiles (2000): Percentage of Minorities, West Range.....	3.12-2
Table 3.12-3. Population Profiles (2000): Percentage of Minorities, East Range	3.12-3
Table 3.12-4. Regional and National Poverty Rates	3.12-3
Table 3.12-5. Population Profiles (2000): Local Poverty Rates, West Range.....	3.12-4
Table 3.12-6. Population Profiles (2000): Local Poverty Rates, East Range	3.12-4

Table 3.13-1. Educational Statistics for Greenway School District in Itasca County	3.13-3
Table 3.13-2. Educational Statistics for Mesabi East School District in St. Louis County	3.13-4
Table 3.15-1. Annual Average Daily Traffic Volumes and Levels of Service on US 169 and CR 7 (Itasca County, Minnesota).....	3.15-4
Table 3.15-2. Annual Average Daily Traffic Volumes and Levels of Service on CR 110 and CR 666 (St. Louis County, Minnesota).....	3.15-5
Table 3.15-3. Location of Railroad At-Grade Crossings – West Range Site.....	3.15-8
Table 3.15-4. Location of Railroad At-Grade Crossings – East Range Site.....	3.15-10
Table 3.16-1. Shipments of Manifested Waste from Minnesota Generators to Treatment, Storage or Disposal Facilities (1996 and 1999) ^a	3.16-1
Table 3.17-1. Statistics for Work Place Hazards	3.17-1
Table 3.17-2. Five-Year Traffic Accident History near Intersection of US 169 and CR 7 at West Range Site	3.17-3
Table 3.17-3. Estimated Percent of Adults with Behavioral Health Risk Factors (2004)	3.17-4
Table 3.17-4. Estimated Number of Adults with Cancer Incidences (2004)	3.17-5
Table 3.17-5. Causes of Mortality, State and County Statistics (2003 and 2004)	3.17-5
Table 3.17-6. State Transmission Line Standards and Guidelines.....	3.17-9
Table 3.18-1. Noise Levels for Common Sounds	3.18-1
Table 3.18-2. Noise Area Classification (NAC) Thresholds for NAC-1 and NAC-2.....	3.18-4
Table 3.18-3. Existing Noise Levels at Ambient Noise Receptors for West Range Site.....	3.18-5
Table 3.18-4. Existing Noise Levels at Ambient Noise Receptors for East Range Site.....	3.18-7
Table 4.2-1. IGCC Power Plant Structure Dimensions.....	4.2-2
Table 4.3-1. Annual Criteria Air Pollutant Emission (Phase I and Phase II).....	4.3-3
Table 4.3-2. Annual Hazardous Air Pollutant Emissions (Phase I and Phase II)	4.3-4
Table 4.3-3. Daily Emission Rates from Vehicle Traffic – Peak Construction	4.3-7
Table 4.3-4. Highest Project Impacts and PSD SILs for the West Range Site	4.3-9
Table 4.3-5. Results of Class II PSD Increment Analysis at West Range Site.....	4.3-10
Table 4.3-6. Results of Class II NAAQS Modeling at the West Range Site	4.3-11

Table 4.3-7. PSD Significant Monitoring Concentrations and Maximum Impacts from Mesaba Energy Project (Phase I and Phase II)	4.3-12
Table 4.3-8. Class I PSD Increment Modeling Results for West Range Site	4.3-13
Table 4.3-9. Class I Area Visibility Results for Mesaba Energy Project – West Range Site (Method 2 Analysis)	4.3-14
Table 4.3-10. Class I Area Visibility Results for Mesaba Energy Project – West Range Site (CALPUFF Analysis)	4.3-16
Table 4.3-11. Characteristics of Days with Predicted Visibility Impacts	4.3-17
Table 4.3-12. Comparison of Near-Field Model Predictions Impacts East Range Site/West Range Site	4.3-18
Table 4.3-13. Mesaba Energy Project (Phases I and II) PSD Increment Impacts East Range Site/West Range Site	4.3-19
Table 4.3-14. Class I Area Visibility Impacts for Mesaba Energy Project – East Range Site CALPUFF Method 2 Model Results for East Range Site	4.3-20
Table 4.3-15. Maximum Annual Deposition of S and N from Mesaba Energy Project in Class I Areas (kilogram per hectare per year)	4.3-21
Table 4.3-16. Comparison of Projected Class I SO ₂ Concentrations to Green Line Screening Criteria for Vegetation Impacts.....	4.3-23
Table 4.3-17. Comparison of Projected S and N Deposition Rates to Green Line Criteria for Impacts to Terrestrial and Aquatic Ecosystems	4.3-23
Table 4.4-1. Areas of Disturbance (West Range Site)	4.4-4
Table 4.4-2. Areas of Disturbance Associated with HVTL Corridors (West Range Site).....	4.4-5
Table 4.4-3. Areas of Disturbance Along Proposed Pipeline Corridors (West Range Site).....	4.4-6
Table 4.4-4. Key Information Regarding the West Range Rail Alignment Alternatives and Access Roads.....	4.4-8
Table 4.4-5. Key Information Regarding Construction on the East Range IGCC Power Plant	4.4-9
Table 4.4-6. Key Information Regarding the East Range HVTL corridors.....	4.4-10
Table 4.4-7. Key Information Regarding the East Range Pipeline Corridors.....	4.4-11
Table 4.4-8. Key Information Regarding the East Range Rail Alignment Alternatives and Access Roads.....	4.4-12
Table 4.5-1. Process Water Resources Identified for Use at the West Range Site	4.5-9
Table 4.5-2. Water Source Supply Capability	4.5-10

Table 4.5-3. Process Water Requirements Matched with Water Supply Capabilities..... 4.5-11

Table 4.5-4. West Range Pumping Station Capacities 4.5-11

Table 4.5-5. Discharge Flow Rates for the West Range Site..... 4.5-15

Table 4.5-6. Expected IGCC Power Station Discharges and Applicable State Numerical Water Quality Standards..... 4.5-16

Table 4.5-7. Summary of Hill-Annex Mine Pit NPDES and Appropriations Permits..... 4.5-18

Table 4.5-8. Estimated Annual Mass Permitted for Discharge to the Swan River Watershed From the Hill-Annex Mine Pit..... 4.5-18

Table 4.5-9. Chemical Additives Used Per Year (Phases I and II)..... 4.5-21

Table 4.5-10. Dimensions of Required Mixing Zones for IGCC Power Station Discharge – Spring Conditions 4.5-22

Table 4.5-11. Water Quality Criteria Standards for the Swan River 4.5-24

Table 4.5-12. Water Supply Alternatives for the East Range Mesaba IGCC Power Plant..... 4.5-32

Table 4.5-13. Existing Water Appropriation Permits for Surface Waters around East Range Site..... 4.5-36

Table 4.7-1. Summary of Permanent Wetland Impacts (West Range Site)..... 4.7-4

Table 4.7-2. Wetland Impacts - HVTL Alternatives (West Range Site) 4.7-5

Table 4.7-3. Tree and Shrub Clearing in Wetlands - HVTL Alternatives (West Range Site)..... 4.7-6

Table 4.7-4. Surface Water Crossings - HVTL Alternatives (West Range Site)..... 4.7-6

Table 4.7-5. Wetland Impacts - Utility Pipelines Alternatives (West Range Site)..... 4.7-8

Table 4.7-6. Wetland Impacts Adjacent to Surface Water Crossings - Utility Pipeline Alternatives (West Range Site)..... 4.7-11

Table 4.7-7. Wetland Impacts - Rail Line Alternatives (West Range Site)..... 4.7-15

Table 4.7-8. Rail Line Alternatives – Impacts to Wetlands Adjacent to Surface Water Crossings (West Range Site)..... 4.7-16

Table 4.7-9. Wetland Impacts – Access Roads (West Range Site)..... 4.7-17

Table 4.7-10. Wetland Impacts Adjacent to Surface Water Crossings - Access Roads (West Range Site)..... 4.7-18

Table 4.7-11. Wetland Impacts (East Range Site)..... 4.7-18

Table 4.7-12. Wetland Impacts - HVTL Alternatives (East Range Site)..... 4.7-19

Table 4.7-13. Tree and Shrub Clearing in Wetlands - HVTL Alternatives (East Range Site)	4.7-20
Table 4.7-14. Surface Water Crossings - HVTL Alternatives (East Range Site)	4.7-21
Table 4.7-15. Wetland Impacts - Utility Pipelines (East Range Site).....	4.7-22
Table 4.7-16. Wetland Impacts Adjacent to Surface Water Crossings - Utility Pipelines (East Range Site)	4.7-24
Table 4.7-17. Wetland Impacts - Rail Line Alternatives (East Range Site)	4.7-26
Table 4.7-18. Rail Line Alternatives – Impacts to Wetlands Adjacent to Surface Water Crossings (East Range Site).....	4.7-27
Table 4.7-19. Wetland Impacts – Access Roads (East Range Site).....	4.7-28
Table 4.7-20. Wetland Impacts Adjacent to Surface Water Crossings – Access Roads (East Range Site).....	4.7-28
Table 4.7-21. Summary of Total Temporary and Permanent ROW Wetland Impacts for West Range Site and Associated Utility and Transportation Corridors.....	4.7-30
Table 4.7-22. Summary of Total Temporary and Permanent ROW Wetland Impacts for East Range Site and Associated Utility and Transportation Corridors.....	4.7-31
Table 4.8-1. Summary of Terrestrial Floral Communities and Proposed Impacts Associated with the Mesaba IGCC Power Plant Footprint and Buffer Land (West Range Site).....	4.8-6
Table 4.8-2. Terrestrial Floral Communities and Impacts to Vegetation from HVTL Alternative 1 (West Range Site).....	4.8-8
Table 4.8-3. Terrestrial Floral Communities and Impacts for the Proposed HVTL Alternative 1A (West Range Site).....	4.8-9
Table 4.8-4. Terrestrial Floral Communities and Impacts for the Proposed HVTL Phase 2 (West Range Site)	4.8-10
Table 4.8-5. Terrestrial Floral Communities and Impacts for the Proposed Natural Gas Pipeline Alternative 1 (West Range Site).....	4.8-11
Table 4.8-6. Terrestrial Floral Communities and Proposed Impacts within West Range Natural Gas Pipeline Alternative 2 (West Range Site)	4.8-12
Table 4.8-7. Terrestrial Floral Communities and Impacts for the Proposed Natural Gas Pipeline Alternative 3 (West Range Site).....	4.8-14
Table 4.8-8. Terrestrial Floral Communities and Impacts for the Proposed Process Water Supply Pipeline Segment 1 (Lind Pit to Canisteo Pit) (West Range Site)	4.8-15
Table 4.8-9. Terrestrial Floral Communities and Impacts for the Proposed Process Water Supply Pipeline Segment 2 (Canisteo Pit to West Range Site) (West Range Site).....	4.8-16

Table 4.8-10. Terrestrial Floral Communities and Impacts for the Proposed Process Water Supply Pipeline Segment 3 (Gross-Marble Pit to Canisteo Pit) (West Range Site).....	4.8-17
Table 4.8-11. Terrestrial Floral Communities and Impacts for the Proposed Cooling Tower Blowdown Outfall 2 (Mesaba IGCC Power Plant Footprint to Holman Lake) (West Range Site).	4.8-18
Table 4.8-12. Terrestrial Floral Communities and Impacts for the Proposed Cooling Tower Blowdown Outfall 1 (Mesaba IGCC Power Plant Footprint to Canisteo Pit) (West Range Site)...	4.8-19
Table 4.8-13. Terrestrial Floral Communities and Impacts for the Proposed Potable Water and Sewer Pipelines (West Range Site).....	4.8-20
Table 4.8-14. Terrestrial Floral Communities and Impacts for the Proposed Rail Line Alternative 1A (West Range Site)	4.8-21
Table 4.8-15. Terrestrial Floral Communities and Impacts for the Proposed Rail Line Alternative 1B (West Range Site)	4.8-22
Table 4.8-16. Terrestrial Floral Communities and Impacts for the Proposed Road Alignments (West Range Site).....	4.8-23
Table 4.8-17. Summary of Terrestrial Floral Communities and Proposed Impacts for the Mesaba IGCC Power Plant Footprint and Buffer Land (East Range Site)	4.8-24
Table 4.8-18. Terrestrial Floral Communities and Impacts for the Proposed HVTL Alternative 1 (East Range Site).....	4.8-25
Table 4.8-19. Terrestrial Floral Communities and Impacts for the Proposed HVTL Alternative 2 (East Range Site).....	4.8-27
Table 4.8-20. Terrestrial Floral Communities and Impacts for the Natural Gas Pipeline Alternative 1 (East Range Site).....	4.8-28
Table 4.8-21. Terrestrial Floral Communities and Impacts for the Proposed Process Water Supply Pipeline – Area 2WX to Footprint (East Range Site)	4.8-29
Table 4.8-22. Terrestrial Floral Communities and Impacts for the Proposed Process Water Supply Pipeline – Area 2WX to Area 2W (East Range Site).....	4.8-30
Table 4.8-23. Terrestrial Floral Communities and Impacts for the Proposed Process Water Supply Pipeline – Knox Mine to Area 2WX (East Range Site).....	4.8-31
Table 4.8-24. Terrestrial Floral Communities and Impacts for the Proposed Process Water Supply Pipeline – Area 6 and Stephens Mine to Area 2WX (East Range Site).....	4.8-32
Table 4.8-25. Terrestrial Floral Communities and Impacts for the Proposed Process Water Supply Pipeline – Area 9 South to Area 6 (East Range Site).....	4.8-34
Table 4.8-26. Terrestrial Floral Communities and Impacts for the Proposed Process Water Supply Pipeline – Area 9 North (Donora Mine) to Area 6 (East Range Site).....	4.8-34

Table 4.8-27. Terrestrial Floral Communities and Impacts for the Proposed Potable Water and Sewer Pipelines (East Range Site)	4.8-35
Table 4.8-28. Terrestrial Floral Communities Impacts for the Proposed Rail Line Alternative (East Range Site)	4.8-37
Table 4.8-29. Terrestrial Floral Communities and Impacts for the Proposed Rail Line Alternative 2 (East Range Site)	4.8-38
Table 4.8-30. Terrestrial Floral Communities and Impacts for the Proposed Road Alignments (East Range Site)	4.8-39
Table 4.9-1. Results of the 2005 Archaeological Assessment Model at the West Range Site	4.9-3
Table 4.9-2. Results of the 2005 Archaeological Assessment Model at the West Range Site	4.9-6
Table 4.11-1. Estimated Employment – Construction Jobs (Mesaba Generating Station)	4.11-2
Table 4.11-2. Value Added Economic Impacts for the Arrowhead Region During Construction of Mesaba Phases I and II (\$ millions)	4.11-3
Table 4.11-3. Total Output Economic Impacts for the Arrowhead Region During Construction of Mesaba Phases I and II (\$ millions)	4.11-3
Table 4.11-4. Estimated Jobs Created in the Arrowhead Region During Construction of Mesaba Phases I and II	4.11-4
Table 4.11-5. Estimated Employment, Permanent Operating Jobs (Mesaba Generating Station)	4.11-5
Table 4.11-6. Value Added Economic Impacts for the Arrowhead Region for a Typical Year of Operation, Mesaba Phases I and II (\$ millions)	4.11-5
Table 4.11-7. Total Output Economic Impacts for the Arrowhead Region for a Typical Year of Operation, Mesaba Phases I and II (\$ millions)	4.11-6
Table 4.11-8. Estimated Jobs Created in the Arrowhead Region During a Typical Year of Operation, Mesaba Phases I and II	4.11-6
Table 4.14-1. HVTL Route and Voltage Options for the West Range Site	4.14-3
Table 4.14-2. Recommended Network Upgrades	4.14-5
Table 4.14-3. Environmental Comparison of Natural Gas Pipeline Alternatives – West Range Site	4.14-8
Table 4.15-1. “No Build” and “Build” ADT Volumes and LOS at West Range Site (year 2010)	4.15-6
Table 4.15-2. “No Build” and “Build” ADT Volumes and LOS at West Range Site (year 2028)	4.15-7
Table 4.15-3. “No Build” and “Build” ADT Volumes and LOS at East Range Site (year 2010)	4.15-9
Table 4.15-4. “No Build” and “Build” ADT Volumes and LOS at East Range Site (year 2028)	4.15-10

Table 4.16-1. Estimated Construction Waste Streams (Phase I and II)	4.16-3
Table 4.16-2. Feedstock Storage Requirements (Each Phase).....	4.16-5
Table 4.16-3. Annual Quantity of Non-Hazardous and Hazardous Waste Generated from Phase I and Phase II Operations	4.16-9
Table 4.17-1. Chemicals Evaluated in the AERA (Phases I and II)	4.17-2
Table 4.17-2. IRAP Exposure Pathways Evaluated.....	4.17-4
Table 4.17-3. Predicted Incidents for the Proposed Action	4.17-5
Table 4.17-4. IRAP Summary of Highest Total Risks and Hazard Indices by Exposure Scenarios ⁽¹⁾	4.17-8
Table 4.18-1. Noise Levels of Typical Construction Equipment at 50 feet from Source	4.18-2
Table 4.18-2. Noise Area Classification Thresholds for NAC-1	4.18-2
Table 4.18-3. Ground-Borne Vibration Guideline for Residential Land Use.....	4.18-4
Table 4.18-4. Proposed Train Operating Conditions	4.18-4
Table 4.18-5. Receptor Locations for Noise Analyses at the West Range Site	4.18-5
Table 4.18-6. Receptor Locations for Noise Analyses at the East Range Site	4.18-6
Table 4.18-7. Aggregate Estimated Noise Levels Generated by Construction Activities at the West Range Site	4.18-9
Table 4.18-8. Estimated Steam Blow Noise Levels at West Range Site	4.18-9
Table 4.18-9. Aggregate Estimated Noise Levels during Construction at East Range Site.....	4.18-10
Table 4.18-10. Estimated Steam Blow Noise Levels at East Range Site.....	4.18-10
Table 4.18-11. Estimated Plant Noise Levels at Receptors for West Range Site	4.18-11
Table 4.18-12. Estimated Operational Noise Levels at Receptors at East Range Site	4.18-12
Table 4.18-13. Estimated Freight Train and Yard Activity Noise Levels at West Range Site	4.18-14
Table 4.18-14. Estimated Freight Train and Yard Activity Noise Levels at East Range Site	4.18-15
Table 4.18-15. MINNOISE L ₁₀ Noise Levels at Virtual Receptor Locations for West Range Site ..	4.18-16
Table 4.18-16. Summary of Noise Mitigation Project Design Features	4.18-20
Table 5.1-1. Expected Characteristics of CO ₂ Capture Scenarios	5.1-4
Table 5.1-2. Summary of Impacts and Mitigation Measures for CO ₂ Capture and Storage.....	5.1-12

Table 5.2.2-1. Comparison of Present and Future Emissions ^{1, 2, 3}	5.2-3
Table 5.2.2-2. Maximum Predicted Concentrations for Cumulative Impact to Class I Areas from Mesaba Energy Project combined with All Existing and Foreseeable Future Sources.....	5.2-4
Table 5.2.2-3. Maximum Predicted Concentrations for Cumulative Impact to Air Quality from Mesaba Energy Project combined with All Existing and Foreseeable Future Sources.....	5.2-5
Table 5.2.2-4. Results of Cumulative Visibility Impacts in Class I Areas from Mesaba Energy Project combined with All Existing and Foreseeable Future Sources.....	5.2-6
Table 5.2.2-5. Maximum Annual S and N Deposition from Mesaba Energy Project combined with All Existing and Foreseeable Future Sources.....	5.2-7
Table 5.2.2-6. Comparison of Projected S and N Deposition Rates to Green Line Criteria for Impacts to Terrestrial and Aquatic Ecosystems	5.2-7
Table 5.2.2-7. Average Mercury Concentration from Mesaba Energy Project combined with All Existing and Foreseeable Future Sources.....	5.2-8
Table 5.2.5-1. Foreseeable Future Actions within the Defined Study Areas.....	5.2-18
Table 5.2.5-2. West Range Site Cumulative Wetland Impacts Analysis Results	5.2-19
Table 5.2.5-3. East Range Site Cumulative Wetland Impacts Analysis Results	5.2-20
Table 5.2.6-1. Reasonably Foreseeable Future Actions within the Defined Study Areas	5.2-22
Table 5.2.6-2. West Range Site Cumulative Wildlife Habitat Impacts Analysis Results.....	5.2-22
Table 5.2.6-3. Total Habitat Impacts for Existing Conditions and Proportion Lost Due to Reasonably Foreseeable Future Actions within West Range Site Study Area	5.2-23
Table 5.2.6-4. Mesaba Energy Project Wildlife Habitat Impacts	5.2-24
Table 5.2.6-5. Minnesota Steel Industries Wildlife Habitat Impacts	5.2-24
Table 5.2.6-6. Nashwauk Gas Pipeline Wildlife Habitat Impacts	5.2-25
Table 5.2.6-7. Itasca County Highway 7 Realignment Wildlife Habitat Impacts	5.2-25
Table 5.2.6-8. Itasca County Railroad Wildlife Habitat Impacts.....	5.2-26
Table 5.2.6-9. East Range Site Cumulative Wildlife Habitat Impacts Analysis Results	5.2-27
Table 5.2.6-10. Total Habitat for Existing Conditions and Proportion Lost Due to Reasonably Foreseeable Future Actions within East Range Study Area.....	5.2-27
Table 5.2.6-11. Mesaba Energy Project Wildlife Habitat Impacts	5.2-28
Table 5.2.6-12. PolyMet Mining NorthMet Project Wildlife Habitat Impacts	5.2-29

Table 5.2.6-13. Mesabi Nugget Wildlife Habitat Impacts 5.2-29

Table 5.2.7-1. Grade Rail Crossing Delay Times 5.2-32

Table 5.3-1. Mitigation Measures for the Mesaba Energy Project 5.3-1

Table 5.3-2. Summary of CTB Mitigation Alternatives 5.3-6

Table 5.3-3. Water Source Supply Capacities. 5.3-8

Table 5.3-4. Expected IGCC Power Station Discharges for the Base Case and Mitigation Alternative 1
and Applicable State Numerical Water Quality Standards 5.3-10

LIST OF FIGURES

Figure S-1. Potential Project Locations in Taconite Tax Relief Area.....S-1

Figure S-2. West Range Site and CorridorsS-16

Figure S-3. East Range Site and CorridorsS-20

Figure 1.1-1. General Location Map..... 1-2

Figure 1.5-1. The NEPA Process 1-10

Figure 1.5-2. Minnesota Power Plant Siting Process..... 1-12

Figure 2.1-1. West and East Range Sites in Taconite Tax Relief Area 2-3

Figure 2.1-2. West Range Site and Corridors 2-8

Figure 2.1-3. East Range Site and Corridors 2-9

Figure 2.2-1. Process Block Diagram, Mesaba Energy Project..... 2-15

Figure 2.2-2. E-Gas™ Process for IGCC Power Generation 2-16

Figure 2.2-3. Feedstock Grinding and Slurry Preparation 2-17

Figure 2.2-4. Gasification and Slag Handling..... 2-18

Figure 2.2-5. Particulate Matter Removal..... 2-19

Figure 2.2-6. Syngas Scrubbing 2-20

Figure 2.2-7. Acid Gas Removal and Mercury Removal..... 2-21

Figure 2.2-8. Sulfur Recovery Unit 2-23

Figure 2.2-9. Sour Water Treatment System 2-26

Figure 2.2-10. Water Balance Diagram Applicable to Phases I & II..... 2-37

Figure 2.3-1. West Range Plant Site 2-51

Figure 2.3-2. West Range Rail and Road Alternatives 2-53

Figure 2.3-3. West Range Water Sources and Discharges..... 2-60

Figure 2.3-4. West Range Natural Gas Pipeline and HVTL Alternatives 2-63

Figure 2.3-5. East Range Plant Site 2-67

Figure 2.3-6. East Range Rail and Road Alternatives..... 2-69

Figure 2.3-7. East Range Water Sources and Discharges 2-72

Figure 2.3-8. East Range Natural Gas Pipeline and HVTL Alternatives 2-76

Figure 3.2-1. View of the Canisteo Mine Pit and Tailings Pile Looking North 3.2-2

Figure 3.2-2. View from the Lind Mine Pit Tailings Pile Looking East..... 3.2-2

Figure 3.2-3. View of West Range Site Looking North along HVTL (45L)..... 3.2-3

Figure 3.2-4. View of CR 7 Near West Range Site Looking North 3.2-4

Figure 3.2-5. View of Diamond Lake Road Near Potential Rail Crossing 3.2-4

Figure 3.2-6. Receptors along the West Range Corridor 3.2-5

Figure 3.2-7. Receptors near the West Range Power Plant 3.2-6

Figure 3.2-8. View of East Range Site from Tailings Pile Looking East 3.2-7

Figure 3.2-9. Receptors along the East Range Corridor 3.2-9

Figure 3.2-10. Receptors near the East Range Power Plant..... 3.2-10

Figure 3.2-11. State Parks and Other Public Lands in Minnesota 3.2-11

Figure 3.2-12. View of Syl Laskin Energy Center from Birch Cove Park Looking North 3.2-12

Figure 3.3-1. Wind Rose Data at Hibbing, Minnesota..... 3.3-2

Figure 3.4-1. West Range Site Bedrock Geology 3.4-3

Figure 3.4-2. West Range Corridor Depth to Bedrock 3.4-6

Figure 3.4-3. East Range Site Bedrock Geology 3.4-8

Figure 3.4-4. East Range Corridor Depth to Bedrock..... 3.4-9

Figure 3.4-5. Mining Disturbances in the Vicinity of the West Range..... 3.4-11

Figure 3.4-6. Mining Disturbances in the Vicinity of the East Range 3.4-12

Figure 3.4-7. West Range Location of Prime Farmland Soils 3.4-19

Figure 3.5-1. West Range Drainage Features 3.5-3

Figure 3.5-2. West Range Receiving Waters 3.5-4

Figure 3.5-3. East Range Drainage Features..... 3.5-15

Figure 3.5-4. East Range Process Water Sources 3.5-16

Figure 3.6-1. West Range Corridor FEMA Floodplains 3.6-3

Figure 3.6-2. East Range Corridor FEMA Floodplains 3.6-4

Figure 3.7-1. West Range Site Wetlands 3.7-5

Figure 3.7-2. East Range Site Wetlands 3.7-6

Figure 3.10-1. West Range Site Land Use/Land Cover..... 3.10-3

Figure 3.10-2. West Range Corridor Land Use/Land Cover 3.10-4

Figure 3.10-3. East Range Site Land Use/Land Cover 3.10-6

Figure 3.10-4. East Range Corridor Land Use/Land Cover..... 3.10-7

Figure 3.11-1. Arrowhead Region 3.11-1

Figure 3.11-2. Census Tract 9810 in Itasca County..... 3.11-3

Figure 3.11-3. Hoyt Lakes (Census Tract 140) in St. Louis County 3.11-4

Figure 3.11-4. Annual Unemployment Rate (Percent), Arrowhead Region vs. Statewide Average ... 3.11-7

Figure 3.14-1. Minnesota Transmission Lines, Northeast Planning Zone..... 3.14-4

Figure 3.14-2. West Range Existing Utilities 3.14-5

Figure 3.14-3. East Range Existing Utilities..... 3.14-6

Figure 3.15-1. BNSF and CN Rail Lines in Vicinity of Project Sites (BNSF, 2005)..... 3.15-7

Figure 3.15-2. At-Grade Rail Crossings near the West Range 3.15-9

Figure 3.15-3. At-Grade Rail Crossings near the East Range..... 3.15-11

Figure 3.17-1. Number of Vehicles, Drivers, and Fatalities in Minnesota from 1962-2005 3.17-2

Figure 4.2-1. Predicted Visibility Impact Areas for the West Range Site and Corridors 4.2-8

Figure 4.2-2. Predicted Visibility Impact Areas for the East Range Site and Corridors..... 4.2-13

Figure 4.5-1. Water Intake Structures, Conceptual Designs 4.5-5

Figure 4.5-2. Phase I Water Balance: West Range IGCC Power Station 4.5-8

Figure 4.5-3. Phase I and II Water Balance: West Range IGCC Power Station..... 4.5-8

Figure 4.5-4. Modeled Mercury Levels in the CMP and Plant Discharge for the West Range Site.... 4.5-19

Figure 4.5-5. Modeled TDS Levels in the CMP and Plant Discharge for the West Range Site..... 4.5-20

Figure 4.5-6. Modeled Hardness Levels in the CMP and Plant Discharge for the West Range Site... 4.5-20

Figure 4.9-1. Archaeological Model for West Range Corridor 4.9-4

Figure 4.9-2. Archaeological Model for East Range Corridor..... 4.9-7

Figure 4.11-1. View of Syl Laskin Plant from Residences on Colby Lake 4.11-9

Figure 4.14-1. Typical Cross Section, Natural Gas Pipeline Open Trench Installation..... 4.14-3

Figure 4.17-1. West Range, EMF for 230-kV – 2 Circuit Vertical Configuration Lapwing 4.17-10

Figure 4.17-2. West Range, EMF for 345-kV – 1 Circuit Delta Configuration 4.17-11

Figure 4.17-3. East Range, EMF for 345-kV – Vertical Configuration Bundle with 115-kV - Vertical Configuration Rail..... 4.17-13

Figure 5-1.2-1. Potential Pipeline Routes from the Mesaba Energy Project to EOR Fields..... 5.1-6

Figure 5-1.2-2. Potential Pipeline Route to the Lower Cretaceous Saline Formation. 5.1-8

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ACRONYMS AND GLOSSARY

Acronym or Term	Definition
7Q10	seven-day low flow average with a 10-year recurrence interval
A/m	Amperes per meter
AADT	annual average daily traffic
AC	alternating-current
ADT	average daily traffic
AERA	Air Emission Risk Assessment
AERMOD	AMS/EPA Regulatory MODel (an air dispersion model)
aerodynamic diameter	A term used to describe particles with common aerodynamic properties, which avoids the complications associated with varying particle sizes, shapes, and densities. For example, PM ₁₀ is defined in 40 CFR Part 50 as consisting of particles 10 micrometers or less in aerodynamic diameter, meaning particles that behave aerodynamically like spherical particles of unit density (1 gram per cubic centimeter) having diameters of 10 micrometers or less.
aerosol	A suspension of fine solid or liquid particles in a gas.
AGL	above ground level
AGR	acid gas removal
air dispersion model	A computer program that incorporates a series of mathematical equations used to predict downwind concentrations in the ambient air resulting from emissions of a pollutant. Inputs to a dispersion model include the emission rate; characteristics of the emission release such as stack height, exhaust temperature, and flow rate; and atmospheric dispersion parameters such as wind speed and direction, air temperature, atmospheric stability, and height of the mixed layer.
air quality	The cleanliness of the air as measured by the levels of pollutants relative to standards or guideline levels established to protect human health and welfare. Air quality is often expressed in terms of the pollutant for which concentrations are the highest percentage of a standard (e.g., air quality may be unacceptable if the level of one pollutant is 150% of its standard, even if levels of other pollutants are well below their respective standards).
alignment	The location of a rail line in a corridor.
alluvium	A general term for the sedimentary material deposited by flowing water.
AMP	Arcturus Mine Pit
ANSI	American National Standards Institute

Acronym or Term	Definition
amsl	above mean sea level
anthracite	The hardest type of coal, characteristically black in color, lustrous, with a conchoidal fracture (smoothly curved, irregular breakage surface). Anthracite coal consists of 92-98% carbon and less than 8% volatile constituents by weight.
anticline	A geologic fold that is arch-like in form, with rock layers dipping outward from both sides of the axis, and older rocks in the core. The opposite of syncline.
APE	area of potential effect
AQRV	air quality related value
aquifer	A subsurface saturated rock unit (formation, group of formations, or part of a formation) of sufficient permeability to transmit groundwater and yield usable quantities of water to wells and springs.
ARDC	Arrowhead Regional Development Commission
area of potential effect (APE)	The geographic region that may be impacted as a result of the construction and operation of the Proposed Action or alternatives.
AREMA	American Railway Engineering and Maintenance of Way Association
artesian	Groundwater conditions in which water in wells rises above its level in the aquifer, including conditions in which groundwater rises to the ground surface or above.
ash	The mineral content of a product remaining after complete combustion.
ASU	air separation unit
ATPA	Andean Trade Preferences Act
attainment	Air quality in the locality that meets the established standards.
ATV	all-terrain vehicle
BACT	best available control technology
baghouse	An air pollution control device that filters particulate emissions, consisting of a bank of bags that function like a vacuum cleaner bag to intercept particles that are mostly larger than 10 micrometers in aerodynamic diameter.
BART	best available retrofit technology
base level	The level below which a stream cannot erode its valley further.
batholith	The largest pluton form, defined as an irregular-shaped mass with a surface exposure greater than 100 square kilometers that has invaded layers of crustal rocks.

Acronym or Term	Definition
BBER	Bureau of Business and Economic Research
BCC	bioaccumulative chemical of concern
bedrock	The rock of Earth's crust that is below the soil and largely unweathered.
beneficiation	The process of washing or otherwise cleaning coal to increase the energy content by reducing the ash content.
berm	A mound or wall of earth.
bgs	below ground surface
biocide	A substance (e.g., chlorine) that is toxic or lethal to many organisms and is used to treat water.
BLM	Bureau of Land Management
blowdown	The portion of steam or water removed from a boiler at regular intervals to prevent excessive accumulation of dissolved and suspended materials.
BMP	best management practice
BNSF	Burlington Northern/Santa Fe (Railway Company)
BOD	biochemical oxygen demand
bottom ash	Combustion residue composed of large particles that settle to the bottom of a combustor from where they can be physically removed.
brackish	Water that has high concentrations of salts (typically 1,000 to 10,000 parts per million of dissolved solids), but that may still be suitable for some uses.
brine	Water saturated with salt.
Btu	British thermal unit
building downwash	The downward movement of an elevated plume toward the area of low pressure created on the lee side of a structure in the wake around which the air flows.
BWCAW	Boundary Waters Canoe Area Wilderness
BWSR	Board of Water and Soil Resources
CAA	Clean Air Act
CAIR	Clean Air Interstate Rule
CAM	Compliance Assurance Monitoring
CAMR	Clean Air Mercury Rule

Acronym or Term	Definition
capacity factor	The percentage of energy output during a period of time, compared to the energy that would have been produced if the equipment operated at its maximum power throughout the period.
CapX2020	Capital Expansion by the year 2020
carcinogenic	Capable of producing or inducing cancer.
CBT	Coleraine – Bovey – Taconite
CCES	Critical Connections Ecological Services, Inc.
CCPI	Clean Coal Power Initiative
CCS	carbon capture and sequestration
CCT	clean coal technology
CDT	Central Daylight Time
CE	Cliffs-Erie, LLC
census tract	A small, relatively permanent statistical subdivision of a county. Census tracts, which average about 4,000 inhabitants, are designed to be relatively homogeneous units with respect to population characteristics, economic status, and living conditions.
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
cfs	cubic feet per second
CH₄	methane
CL	centerline
Class I area	Under the Clean Air Act, a Class I area is one in which visibility is protected more stringently than under the national ambient air quality standards, with only a small increase in pollution allowed. Class I areas include national parks, wilderness areas, monuments, and other areas of special national and cultural significance.
Class II area	Under the Clean Air Act, Class II areas are all other clean air regions not designated Class I areas, with moderate pollution increases allowed. See Class I area .
CLOMR	conditional letter of map revision
CMP	Canisteo Mine Pit
CN	Canadian National (Railway Company)
CO	carbon monoxide

Acronym or Term	Definition
CO₂	carbon dioxide
coal gasification	A process that converts coal into a gaseous product, which involves crushing coal into a powder and heating the powder in the presence of steam and oxygen. After impurities (e.g., sulfur) are removed, the gas can be used as a fuel or further processed and concentrated into a chemical or liquid fuel.
COC	cycles of concentration
cold box	An air separation cryogenic unit contained in the air separation unit (ASU).
Combined-cycle electric power plant	A power plant that uses both a steam turbine generator and a combustion turbine generator at one location to produce electricity.
Combustor	Equipment in which coal or other fuel is burned at high temperatures.
Confined aquifer	An aquifer that is bounded by two confining units, and in which the water level in wells usually rises above the top of the aquifer.
Confining unit	A geologic formation or bed that has lower permeability than layers above and below it, and therefore restricts vertical water movement. (Confining units are also called aquitards.)
contaminant	A substance that contaminates (pollutes) air, soil, or water. It may also be a hazardous substance that does not occur naturally or that occurs at levels greater than those that occur naturally in the surrounding environment.
Contamination	The intrusion of undesirable elements (unwanted physical, chemical, biological, or radiological substances; or matter that has an adverse effect) to air, water, or land.
Cooling tower	A structure that cools heated condenser water by circulating the water along a series of louvers and baffles through which cool, outside air convects naturally or is forced by large fans.
Cooling water	Water that is heated as a result of being used to cool steam and condense it to water.
COPC	chemical of potential concern
COS	carbonyl sulfide
CP	Canadian Pacific (Railway Company)
CR	County Road
craton	Ancient crystalline rock that has generally been eroded to a low elevation and relief, forming the stable center of a continent.
CSAH	County State Aide Highway
CTB	cooling tower blowdown

Acronym or Term	Definition
CTG	combustion turbine generator
culm	Coal waste that consists of rock and coal with varying amounts of carbon material remaining after removal of higher-quality saleable coal.
Culm bank	A pile or other deposit of culm on the land surface. See culm .
CWA	Clean Water Act
CWIS	cooling water intake structures
D.A.R.E.	Drug Abuse Resistance Education
DAT	deposition analysis threshold
dB	decibel
dBA	decibels as measured on the A-weighted scale
DBH	diameter at breast height
DC	direct current
decibel (dB)	A unit for expressing the relative intensity of sounds on a logarithmic scale from zero for the average least perceptible sound to about 130 for the average level at which sound causes pain to humans.
DEED	Department of Employment and Economic Development
DMIR	Duluth, Missabe, and Iron Range (Railway Company)
DO	dissolved oxygen
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
drawdown	The process by which the water table adjacent to a well is drawn down after active pumping from an aquifer.
Dredged material	Material that is dredged or excavated from waters of the United States, including wetlands.
DWI	driving while intoxicated
EAW	Environmental Assessment Worksheet
ECS	Ecological Classification System
EERC	Energy and Environmental Research Center
EERE	Energy Efficiency and Renewable Energy
EFP	Energy Facility Permitting

Acronym or Term	Definition
EGU	electric generating unit
EIS	Environmental Impact Statement
electrostatic precipitator	A device that removes particles from a stream of exhaust gas. It imparts an electrical charge to the particles, which causes them to adhere to metal plates that can be rapped to cause the particles to fall into a hopper for disposal.
ELF	extremely low frequency
EMF	electromagnetic field
eminent domain	The right of a government to appropriate private property for public use upon payment of its fair market value to the owner.
EMT	Emergency Medical Technician
endangered species	A species that is in danger of extinction throughout all or a significant part of its range; a formal listing of the U.S. Fish and Wildlife Service under the Endangered Species Act.
Environmental justice	The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including racial, ethnic, or socioeconomic groups, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of Federal, state, local, and tribal programs and policies. Executive Order 12898 directs Federal agencies to make achieving environmental justice part of their missions by identifying and addressing disproportionately high and adverse effects of agency programs, policies, and activities on minority and low-income populations.
EOC	Emergency Operations Center
EOR	enhanced oil recovery
EPA	U.S. Environmental Protection Agency
EPAct	Energy Policy Act
epicenter	Area on the earth's surface directly above the focus of an earthquake.
EQB	Environmental Quality Board
ERER	equivalent risk emission rate
ERT	Emergency Response Team
evapotranspiration	The amount of water removed from a land area by the combination of direct evaporation and plant transpiration.
EVM	Eveleth-Virginia Municipal

Acronym or Term	Definition
FAA	Federal Aviation Administration
FAC	facultative plant species
FACU	facultative upland plant species
FACW	facultative wetland plant species
FAR	First-Approximation Run
fault	A fracture or fracture zone in rock along which the sides have been displaced vertically or horizontally relative to one another.
FEED	Front-End Engineering and Design
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FGD	flue gas desulfurization
FHWA	Federal Highway Administration
fill material	Material used for the primary purpose of replacing an aquatic or wetland area with dry land, or changing the bottom elevation of a waterway.
FIRM	Flood Insurance Rate Map
FIS	Flood Insurance Study
Fischer-Tropsch (F-T) synthesis	A process that uses a metal-containing catalyst to convert a mixture of carbon monoxide and hydrogen (known as synthesis gas) into a mixture of carbon dioxide, water, and aliphatic compounds (organic hydrocarbon compounds joined in straight or branched chains), which are used to produce liquid fuels.
FLAG	Federal Land Managers' Air Quality Related Values Work Group
FLM	Federal Land Manager
floodplain	The strip of relatively level land adjacent to a river channel that becomes covered with water if the river overflows its banks.
Flue gas	Residual gases after combustion that are vented to the atmosphere through a flue or chimney.
Flux	A material (e.g., limestone) that is added to a substance to lower the melting temperature of the substance and promote fluidity.
Fly ash	Combustion residue composed of fine particles (e.g., soot) that are entrained with the draft leaving the combustor.
Formation	The primary unit associated with formal geological mapping of an area. Formations possess distinctive geological features and can be combined into "groups" or subdivided into "members."

Acronym or Term	Definition
FR	Federal Register
FRA	Federal Railroad Administration
freshwater	Water with a low concentration of salts (typically less than 1,000 parts per million of dissolved solids).
FSQ	full slurry quench
FTA	Federal Transit Administration
fuel flexible	The ability of a generating station to operate at or near maximum capacity using various fuels or blends of fuels. This allows the station to adapt its fuel mix over the life of the facility thereby minimizing the cost of power.
Fugitive dust	Particulate matter composed of soil; can include emissions from haul roads, wind erosion of exposed surfaces, and other activities in which soil is removed and redistributed.
Fugitive emissions	Emissions released directly into the atmosphere that could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening.
FY	fiscal year
G	Gauss
GACT	generally available control technology
GAP	Gap Analysis Program
Gaussian	Concentrations of pollutants downwind of a source are assumed to form a normal distribution (i.e., bell-shaped curve) from the centerline of the plume in the vertical and lateral directions.
GCP	good combustion practice
GEP	good engineering practice
GIS	Geographic Information Systems
glacial till	Direct glacial deposits that are unsorted and unstratified.
GLG	Great Lakes Gas (Transmission Company)
GLTZ	Great Lakes Tectonic Zone
GMMP	Gross-Marble Mine Pit
GMP	Greenway Mine Pit
GO	generator outlet
gpd	gallons per day

Acronym or Term	Definition
gpm	gallons per minute
GPS	Global Positioning System
groundwater	Water contained in pores or fractures, in either the unsaturated zone or saturated zone, below ground level.
GTG	Gas Turbine Generator
H₂	hydrogen
H₂O	water
H₂S	hydrogen sulfide
HAMP	Hill-Annex Mine Pit
HAP	hazardous air pollutant
hazardous air pollutant (HAP)	Air pollutants that are not covered by ambient air quality standards, but may present a threat of adverse human health effects or adverse environmental effects, and are specifically listed on the Federal list of 189 hazardous air pollutants in 40 CFR 61.01.
hazardous waste	A category of waste regulated under the Resource Conservation and Recovery Act (RCRA). To be considered hazardous, a waste must be a solid waste under RCRA and must exhibit at least one of four characteristics described in 40 CFR 261.20 through 40 CFR 261.24 (i.e., ignitability, corrosivity, reactivity, or toxicity) or be specifically listed by the Environmental Protection Agency in 40 CFR 261.31 through 40 CFR 261.33.
HCM	highway capacity manual
Henshaw Effect	The interaction of electric fields from power lines with electrical charges on airborne particles, resulting in an increased charge on the particles. This phenomenon may indirectly affect health by increasing the likelihood of inhaled particles that would be deposited on the surface of the lungs and airways, even at considerable distances from the power line. One study found a possible link between the Henshaw Effect and elevated rates of childhood leukemia.
Hg	mercury
HHRAP	Human Health Risk Assessment Protocol
HRSG	heat recovery steam generator
HVTL	high voltage transmission line
hydrology	(1) The study of water characteristics, especially the movement of water. (2) The study of water, involving aspects of geology, oceanography, and meteorology.

Acronym or Term	Definition
Hydrotest	hydrostatic pressure-testing
Hz	Hertz
I/I	inflow and infiltration
ICNIRP	International Commission on Non-Ionizing Radiation Protection
ICRRA	Itasca County Regional Rail Authority
IGCC	integrated gasification combined cycle
igneous	(1) A type of rock formed from a molten, or partially molten, material. (2) An activity related to the formation and movement of molten rock either in the subsurface (plutonic) or on the surface (volcanic).
IMPROVE	Interagency Monitoring of Protected Visual Environments
infiltration	The process of water entering the soil at the ground surface and the ensuing movement downward. Infiltration becomes percolation when water has moved below the depth at which it can return to the atmosphere by evaporation or evapotranspiration.
Integrated gasification combined cycle (IGCC)	A process that uses synthesis gas derived from coal to drive a gas combustion turbine and exhaust gas from the gas turbine to generate steam from water to drive a steam turbine.
IR	ionizing radiation
IRAP	Industrial Risk Assessment Program
IRNP	Isle Royale National Park
IRR	Iron Range Resources
ISO	International Standards Organization
kV	kilovolt
kW	kilowatt
L₁₀	sound pressure level exceeded 10 percent of the time
lacustrine deposit	Deposit associated with lake-level fluctuations.
Laydown area	Material and equipment storage area during the construction phase of a project.
L_{dn}	day-night equivalent sound level
leachate	Solution or product obtained by leaching, in which a substance is dissolved by the action of a percolating liquid.
LEPGP	large electric power generating plant

Acronym or Term	Definition
L_{eq}	continuous equivalent sound level
liquefaction	The process of transforming a gas into a liquid.
Lithic scatters	Concentrations of waste flakes resulting from the manufacture of stone tools.
LLC	Limited Liability Company
L_{max}	highest sound pressure level measured
L_{min}	lowest sound pressure level measured
LMP	Lind Mine Pit
loam	A soil composed of a mixture of clay, silt, sand, and organic matter.
LOS	level of service
L_p	sound pressure level
L_w	sound power level
MAAQs	Minnesota Ambient Air Quality Standards
MACT	maximum achievable control technology
magnitude (of an earthquake)	A quantity that is characteristic of the total energy released by an earthquake. Magnitude is determined by taking the common logarithm of the largest ground motion recorded on a seismograph during the arrival of a seismic wave type and applying a standard correction factor for distance to the epicenter. A one-unit increase in magnitude (e.g., from magnitude 6 to magnitude 7) represents a 30-fold increase in the amount of energy released.
Makeup pond	Pond used to store makeup for cooling water.
MAPP	Mid-Continent Area Power Pool
maximum contaminant level goal (MCLG)	The maximum concentration of a substance in drinking water at which there is no known or anticipated adverse effect on human health, and which allows an adequate margin of safety, as determined by the U.S. Environmental Protection Agency.
MBTA	Migratory Bird Treaty Act
MCBS	Minnesota County Biological Survey
MCL	maximum contaminant level
MD	mining district
MDEA	methyl-diethanolamine
MDH	Minnesota Department of Health

Acronym or Term	Definition
MDOA	Minnesota Department of Administration
MDOC	Minnesota Department of Commerce
MEPA	Minnesota Environmental Policy Act
metamorphic rocks	Rocks that have undergone chemical or structural changes produced by an increase in heat and temperature or by replacement of elements by hot, chemically active fluids.
mG	milligauss
MHS	Minnesota Historical Society
mining district	An area usually designated by name with described or understood boundaries where minerals are found and mined under rules prescribed by the miners, consistent with the General Mining Law of 1872.
Minority population	A community in which the percent of the population of a racial or ethnic minority is 10 points higher than the percent found in the population as a whole.
MISO	Midwest Independent System Operator
mixing height	The height in the lower atmosphere within which relatively vigorous mixing of pollutant emissions occurs.
Mn/DOT	Minnesota Department of Transportation
MNDNR	Minnesota Department of Natural Resources
MOEA	Minnesota Office of Environmental Assistance
MOPS	Minnesota Office of Pipeline Safety
moraine	Glacial deposits of unsorted and unstratified material.
MP	Minnesota Power (Company)
MPCA	Minnesota Pollution Control Agency
mph	miles per hour
MSDC	Minnesota State Demographic Center
MSI	Minnesota Steel Industries
msl	mean sea level
MSSS	Minnesota Standards of Statutory Sources
MSW	municipal solid waste
MVA	mega volt-Amps

Acronym or Term	Definition
MVR	mechanical vapor recompression
MW	megawatt
MWe	megawatt electricity
N	nitrogen
N₂	nitrogen gas
NAAQS	National Ambient Air Quality Standards
NAC	noise abatement criteria
NE MN ATP	Northeast Minnesota Area Transportation Partnership
NEPA	National Environmental Policy Act
NERC	North American Electric Reliability Council
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NETL	National Energy Technology Laboratory
new source performance standards (NSPS)	Regulation under Section 111 of the Clean Air Act enforcing stringent emission standards for power plants constructed on or after January 30, 2004.
NFIP	National Flood Insurance Program
NH₃	ammonia
NHIS	National Heritage Information System
NI	no indicator
NIEHS	National Institute of Environmental Health Sciences
NIOSH	National Industrial and Occupational Safety and Health
NIR	non-ionizing radiation
NNG	Northern Natural Gas (Company)
NOI	Notice of Intent
noise	Any sound that is undesirable because it interferes with speech and hearing; if intense enough, it can damage hearing.
NO_x	Nitrogen oxides including NO, NO ₂ , N ₂ O, N ₂ O ₃ , N ₂ O ₄ , and N ₂ O ₅
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service

Acronym or Term	Definition
NPUC	Nashwauk Public Utilities Commission
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NRPB	National Radiological Protection Board
NSPS	New Source Performance Standards
NWC	New Wetlands Credit
NWI	National Wetlands Inventory
O&M	operation and maintenance
O₂	oxygen
O₃	ozone
OBL	obligate wetland plant species
OPS	Office of Pipeline Safety
OSHA	Occupational Safety and Health Administration
OSM	Office of Surface Mining
parent material	The unconsolidated material, from both organic and mineral sources, that is the basis of soil development.
Particulate matter	Fine liquid or solid particles such as dust, smoke, mist, fumes, or smog, found in air or emissions.
Pb	lead
PCBs	polychlorinated biphenyls
PCOR	Plains CO ₂ Reduction
petroleum coke	A high-sulfur, high-energy product having the appearance of coal, which is produced by oil refineries by heating and removing volatile organic compounds (VOCs) from the residue remaining after the refining process.
pH	A measure of the relative acidity or alkalinity of a solution, expressed on a scale from 0 to 14, with the neutral point at 7. Acid solutions have pH values lower than 7, and basic (i.e., alkaline) solutions have pH values higher than 7.
Plume (atmospheric)	A visible or measurable elongated pattern of emissions spreading downwind from a source through the atmosphere.
Pluton	A general term for any intrusive igneous rock body.
PM	particulate matter

Acronym or Term	Definition
PM₁₀	particulate matter having an aerodynamic diameter less than 10 microns
POI	point of interconnection
potentiometric surface	Imaginary surface defined by the elevations to which the groundwater in an aquifer would rise in wells completed in the aquifer.
POTW	Publicly Owned Treatment Works
ppm	parts per million
ppmvd	parts per million, volumetric dry
PPV	peak particle velocity
PRB	Powder River Basin
PRIME	Plume Rise Model Enhancements
prime farmland	Land that has the best combination of physical and chemical characteristics for producing food, feed, fiber, forage, oilseed, and other agricultural crops with minimum inputs of fuel, fertilizer, pesticides, and labor, and without intolerable soil erosion.
Proposed Action	The activity proposed to accomplish a Federal agency's purpose and need. An EIS analyzes the environmental impacts of the Proposed Action. A proposed action includes the project and its related support activities (preconstruction, construction, and operation, along with post-operational requirements).
PSD	Prevention of Significant Deterioration
PSQ	partial slurry quench
PUC	Public Utilities Commission
PVC	public value credit
PWI	Protected Waters Inventory
PWL	sound power level
RACT	reasonable available control technology
RASS	Risk Assessment Screening Spreadsheet
RCRA	Resource Conservation and Recovery Act
recharge	The movement of water from an unsaturated zone to a saturated zone.
Reference concentrations	Estimates of continuous inhalation exposure to human population (including sensitive subgroups) that are likely to be without an appreciable risk of deleterious effects during a lifetime.

Acronym or Term	Definition
Region of influence (ROI)	The physical area that bounds the environmental, sociologic, economic, or cultural features of interest for the purpose of analysis.
RGGS	RGGS Land & Minerals, LTD., L.P.
Richter scale	A measure of earthquake magnitude developed by Charles Richter.
Riparian	Of, on, or pertaining to the bank of a river or stream, or of a pond or small lake.
RLW	Rainbow Lakes Wilderness Area
RO	reverse osmosis
ROD	Record of Decision
RODM	Routine Onsite Determination Methodology
ROW	right-of-way
RR	Rural Residential
S	sulfur
safe yield	The maximum quantity of water that can be withdrawn continuously from a surface water or groundwater source during a 50-year (or greater) drought without ultimate depletion of the source (considering intrusion of undesirable – quality water, interference with other existing water sources, downstream flow requirements, and other factors).
Saline	Describes water with high concentrations of salts (typically more than 10,000 parts per million dissolved solids), making it unsuitable for use.
scf	Standard cubic foot
SCORE	Governor’s Select Committee on Recycling and the Environment
scrubber	Chemical or physical devices, also known as flue gas desulfurization systems, that remove sulfur compounds formed during coal combustion by combining the sulfur in gaseous emissions with another chemical medium to form inert sludge, which is removed for disposal.
SEC	sediment and erosion control
secondary drinking water standards	Non-enforceable Federal guidelines regarding cosmetic effects (e.g., tooth or skin discoloration) or aesthetic effects (e.g., taste, odor, or color) of drinking water.
Sedimentary rocks	Rocks formed by the accumulation of sediment in water or from air. Sandstone, chert, limestone, dolomite, shale, siltstone, and mudstone are types of sedimentary rocks identified in the EIS. They are differentiated by chemistry and texture.

Acronym or Term	Definition
SEH	Short Elliott Hendrickson, Inc.
seismic	Pertaining to, characteristic of, or produced by earthquakes or earth vibrations.
seismicity	A seismic event or activity such as an earthquake or earth tremor; seismic action.
selective catalytic reduction	A system to reduce NO _x emissions by injecting a reagent, such as ammonia, into exhaust gas to convert NO _x emissions to nitrogen gas and water via a chemical reduction reaction.
sensitive receptor	As used in this EIS, it is any specific resource (i.e., population or facility) that would be more susceptible to the effects of the impact of implementing the proposed action than would otherwise be.
SHPO	State Historic Preservation Office
SIA	significant impact area
SIL	Significant impact level; used at the screening level to determine whether a more refined modeling is required to evaluate impacts.
SIP	State Implementation Plan
slag	Molten inorganic material collected at the bottom of a combustor and discharged into a water-filled compartment where it is quenched and removed as glassy particles resembling sand.
slickens	Mine tailings left over from the taconite concentration process. This material is in basins having containment dikes constructed from mine overburden.
sludge	A semi-solid residue containing a mixture of solid waste material and water from air or water treatment processes.
slurry	A watery mixture or suspension of fine solids, not thick enough to consolidate as a sludge.
SNA	state natural area
SO₂	sulfur dioxide
sound pressure	The physical force from a sound wave that affects the human ear, typically discussed in terms of decibels (dB).
sour water	Water with dissolved sulfur compounds and other contaminants condensed from synthesis gas (syngas).
SPCC	Spill Prevention, Control, and Countermeasures

Acronym or Term	Definition
specific yield	The volume of water released from storage in a unit area of an unconfined aquifer per unit decline in the water table. Values are dimensionless (corresponding, for example, to cubic feet of water per square foot of aquifer per foot of water table decline) and typically are between 0.01 and 0.3. In physical terms, the specific yield can be understood as the fraction of the aquifer volume that consists of drainable void space.
SPL	sound pressure level
spring	A location on the land surface or the bed of a surface water body where groundwater emerges from rock or soil without artificial assistance.
SR	State Route
SRU	sulfur recovery unit
STB	Surface Transportation Board
steam-stripping	A two-step process in which dissolved gases (CO ₂ , NH ₃ , H ₂ S) and other trace contamination are removed from sour water.
STG	steam turbine generator
sub-bituminous	A type of coal, which is used primarily as fuel for electrical power generation, whose properties range between those of lignite and those of bituminous coal. At the lower end of the range it may be dull, dark brown to black, soft, and crumbly. At the higher end of the range it may be bright, jet black, hard, and relatively strong. Sub-bituminous coal contains 20 to 30% moisture by weight. Heating value varies from 7,000 Btu/lb to slightly over 9,000 Btu/lb.
SWANCC	Solid Waste Agency of Northern Cook County
SWCD	Soil and Water Conservation District
SWPPP	Storm Water Pollution Prevention Plan
syncline	A geologic fold in which the rock layers dip inward from both sides toward the axis, with younger rocks in the core. The opposite of anticline.
syngas	synthesis gas
synthesis gas (syngas)	A mixture of gases produced as feedstock, especially as a fuel produced by controlled combustion of coal in the presence of water vapor.
tailings pond	An outside water-filled enclosure that receives discharges of wastewater containing solid residues from processing of minerals. The solid residues settle due to gravity and separate from the water.
TDS	total dissolved solids
TH	Trunk Highway

Acronym or Term	Definition
THPO	Tribal Historic Preservation Office
threatened species	A species that is likely to become an endangered species within the foreseeable future throughout all or a significant part of its range.
TMDL	total maximum daily load
TP	total phosphorous
tpd	tons per day
tpy	tons per year
transmission corridor	Area used to provide separation between the transmission lines and the general public and to provide access to the transmission lines for construction and maintenance.
TRB	Transportation Research Board
TSD	treatment, storage and disposal
TSP	total suspended particulate matter
TSS	total suspended solids
TTRA	Taconite Tax Relief Area
TVB	tank vent boiler
UMRB	Upper Mississippi River Basin
UK	United Kingdom
UP	Union Pacific/Wisconsin Central (Railway Company)
UPL	obligate upland plant species
US	U.S. Highway
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USDI	U.S. Department of the Interior
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UV	ultraviolet
V/m	Volts per meter

Acronym or Term	Definition
viewshed	A non-managed area with aesthetic value.
VIP	Value Improving Practices
VMT	vehicle miles of travel
VNP	Voyageurs National Park
VOC	volatile organic compound
water table	(1) The upper limit of the saturated zone (the portion of the ground wholly saturated with water). (2) The upper surface of a zone of saturation above which the majority of pore spaces and fractures are less than 100 percent saturated with water most of the time (unsaturated zone) and below which the opposite is true (saturated zone).
WCA	Wetland Conservation Act
wetlands	Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas.
wind rose	A graph in which the frequency of wind blowing from each direction is plotted as a bar that extends from the center of the diagram. Wind speeds are denoted by bar widths and shading; the frequency of wind speed within each wind direction is depicted according to the length of that section of the bar.
WMA	Wildlife Management Area
WWTF	wastewater treatment facility
WWTP	wastewater treatment plant
ZLD	zero liquid discharge

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