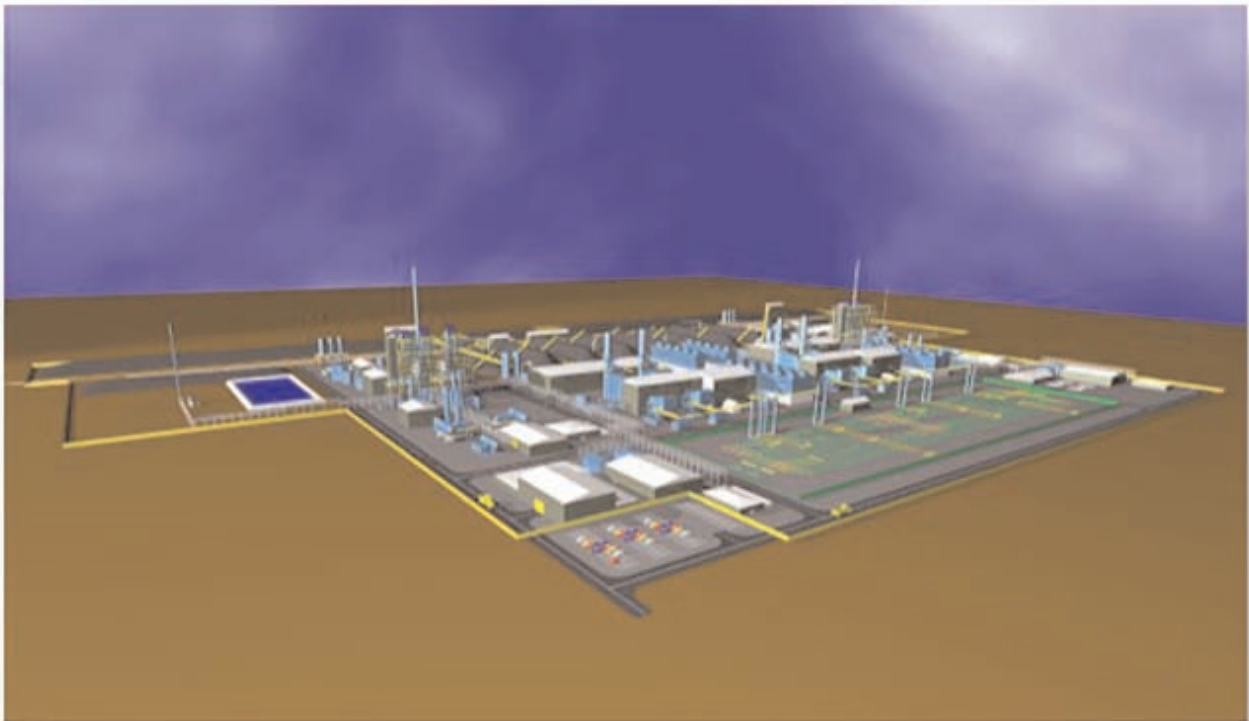


**U.S. Department of Energy
in cooperation with
Minnesota Department of Commerce**

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**



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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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