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— VIA FACSIMILE AND FIRST CLASS MAIL —

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Mr. Thomas Skinner, Region V Administrator
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Ms. Sheryl Corrigan, Commissioner
Minnesota Pollution Control Agency
Commissioner's Office
520 Lafayette Road
St. Paul, MN 55155-4194

November 14, 2005

RE: Scope of Mesaba Energy Project Environmental Impact Statement

Dear Mr. Hargis and Regional Administrator Skinner,

On behalf of the Sierra Club and its 25,000 members within the state of Minnesota, we formally request that the Department of Energy incorporate the following recommendations into the Environmental Impact Statement (EIS) for the Mesaba Energy Project Integrated Gasification Combined Cycle (IGCC) Demonstration Plant in Itasca County, Minnesota. The notice outlining the draft scope of the EIS does not adequately address the environmental, social, and economic impacts of the Mesaba Energy Project or consider alternative sources of energy production.

For our members and, we believe, the majority of the citizens of Minnesota, it is necessary that the scope of the EIS for The Mesaba Project consider the environmental, social, and economic impacts mentioned in our comments, as well as alternatives which do not commit additional years and resources to our dependence on fossil fuels.

We believe that Minnesota has cleaner and safer alternatives to produce this energy, create jobs, and reduce environmental impacts – alternatives which would improve economic development, enhance quality of life, and invest in an energy future we can support.

Finally, we urge U.S. EPA and the Minnesota Pollution Control Agency (MPCA) to be coordinating agencies in preparing the EIS, in part to fulfill its coordination responsibilities under 40 C.F.R. 52.21(s). The Clean Air Act requires coordinating NEPA analysis with the Clean Air permitting process. In this case, this requires coordination between DOE, U.S. EPA and its state delegate, the MPCA. This coordination will ensure that the NEPA process fully describes the environmental impacts of the proposed project and all reasonable alternatives thereto.

I. CONSTRUCTION AND OPERATION OF MESABA ENERGY PROJECT

According to the Department of Energy's (DOE) Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS), construction of the Mesaba Energy Project Integrated Gasification Combined Cycle (IGCC) Demonstration Plant (hereafter termed "The Mesaba Project"), proposed by Excelsior Energy Inc. (hereafter termed "Excelsior"), is to take place in Minnesota's Iron Range, off Scenic Highway 7 near the town of Taconite in Itasca County. An alternative site has also been proposed near the town of Hoyt Lakes in St. Louis County. The proposed plant is expected to develop in two phases. Each phase would generate approximately 600 MW and consume approximately 85 acres of land, for a nominal combined net generating capacity of 1,200 MW. The Mesaba Project proposes to use ConocoPhillips' E-Gas™ Technology with the 262 MW Wabash River Coal Gasification Repowering Project (hereafter termed "Wabash") in Terre Haute, Indiana, as a framework. Feedstocks are expected to include bituminous coal, sub-bituminous coal, petroleum coke, or some combination thereof.

Due to the proposal's significant public investment and social and environmental costs, we urge the DOE to conduct an extremely thorough review of The Mesaba Project for the following general reasons:

1. **Large-scale, long-term impact:** Coal-fired power plants including coal plants using coal gasification technology, have significant impacts on the environment and public health throughout the region, nation, and world. The Mesaba Project would represent a long-term, large source of pollution and would do nothing to move Minnesota or the country away from dependence on fossil fuels. The Sierra Club commends Excelsior and other stakeholders for considering IGCC technology, which may provide at least moderate improvements in emissions as compared to traditional coal plants of a similar size. Nonetheless, the benefits of such a project must be considered in light of other alternatives and the environmental and health impacts of this project, particularly the emissions of carbon dioxide, the principal global warming culprit.

2. **Evolving science:** Multiple studies have shown the negative externalities of coal plants, particularly as a result of air emissions. Air pollution from coal plants has been linked to thousands of annual premature deaths in the United States from

heart disease, lung disease, and strokes, brain damage in children from mercury, and other public health threats. Upon completion, the Mesaba Project would be one of the largest sources of carbon dioxide in Minnesota. Any new coal plant must be investigated in light of the problem of impaired waters, polluted air, and global warming, and its contribution to these problems.

3. **Evolving technology:** The Mesaba Project represents at least a modicum of progress in coal technology. Nonetheless, the continued reliance on coal, or any other fossil fuel absent mitigation of the multitude of environmental costs, represents a reliance on technologies and resources of the past. Renewable energy sources, including wind, solar, and biomass, are clean and increasingly cost-effective and reliable. An investment in new coal plants is an investment that delays the further development of renewables and other promising sources of energy, due to a loss of transmission capacity and resources available for new energy generation. As the proposed plant would be in operation for decades, the opportunity costs of its current development would not cease in the near future.

   The nation is moving closer toward the rest of the developed world by considering some form of regulation of greenhouse gases from power plants, and it is likely such laws will be in place well within the working life of this coal plant. Any coal plant development should include an analysis of the "risk premium" required to overcome the costs of future regulatory compliance, insofar as this investment is cost-effective for all involved parties. Renewable energies would face decreasing, rather than increasing, relative costs as these policies are developed.

   Building this coal plant runs counter to all these environmental efforts, putting pollutants into the air that would have to be offset by pollution reductions elsewhere if society is to achieve its environmental goals. In essence, a new coal plant will consume a significant portion of the atmosphere's pollution-absorbing capacity, creating a serious unresolved conflict concerning alternative uses of that capacity of the sort described in section 102(E) of the National Environmental Policy Act (NEPA).

For these reasons and additional ones set forth below, the goals of NEPA cannot be met without a thorough scrutiny of the proposed plant's impacts. In parts II-VIII below we describe the major environmental impacts, socio-economic costs, and resource conflicts related to the coal plant, all of which should be considered in an EIS. In part IX we describe some of the alternatives to the proposed project that should be considered. Given the scale of environmental impacts this plant would have over the coming decades, and the many alternatives already available to it - particularly given the rich renewable resources of Minnesota - we believe that a thorough analysis of alternatives is critical. In other words, the purpose and reasonableness of this project, or the associated EIS, should not be limited in scope so as to only fit the pre-defined parameters of The Mesaba Project.

II. THE MESABA PROJECT IMPACTS – ATMOSPHERIC RESOURCES

The EIS must analyze the atmospheric impacts of air pollution in the immediate area, and all protected areas. The EIS must disclose the air pollution associated with the proposed project, including the use by the variety of feedstocks under consideration.

A. Sulfur Dioxide, Nitrogen Oxides and other Criteria Pollutants

If built, The Mesaba Project would emit significant amounts of criteria pollutants including sulfur dioxide, nitrogen oxides, carbon monoxide, volatile organics, and particulate matter. Sulfur dioxide and nitrogen oxide contribute to several of our nation's most stubborn air pollution problems, including acid rain, ozone formation, and the loss of visibility. Moreover, they transform into very small particulates when they travel through the atmosphere. Particulate matter (particularly PM_{10} and $PM_{2.5}$) has been linked with thousands of premature deaths annually from strokes, heart and lung disease. The EIS should thoroughly examine the impacts of all the criteria pollutants, and because these pollutants are known to travel hundreds of miles from their source, the analysis must be similarly broad in scope. The analysis should contain the following elements:

1. **Detailed emissions and air impact data:** The EIS should precisely quantify the tons per year of criteria pollutant emissions from the Mesaba Project, and air quality modeling should be done to determine the impact of these emissions on pollution levels in the local and regional air, including their contribution to particulate matter and ozone formation.

2. **Impacts on compliance under the Clean Air Act:** The EIS should look at the impact the new emissions would have on attainment with Clean Air Act standards, on increment consumption under the Prevention of Significant Deterioration provisions of the Clean Air Act, and on all air quality related values (AQRVs) of regional Class I areas, including the Boundary Waters Canoe Area Wilderness and Voyageurs National Park. If the analysis shows measurable increases in those pollutant levels, it should go on to consider what the additional compliance costs that would be incurred to offset those emissions from other pollution sources.

3. **Health impacts:** The EIS should quantify the impact that emissions from the Mesaba Project will have on mortality and morbidity, including premature deaths from heart and lung disease, hospital admissions and emergency room visits, bronchitis symptoms, and asthma attacks.

   The EIS should also look at the health impacts associated with other criteria pollutant emissions, including the contribution of nitrogen oxides to ozone formation.

4. **Visibility impacts:** Coal plant emissions also contribute to regional haze. The EIS should quantify the extent to which pollutants from the plant will limit

visibility in the region, especially considering the importance of clean air to tourism and other recreation-based industries in the area. The EIS should discuss impacts on visibility for all parks and forests within 200 miles, including detailing existing visibility conditions at those parks and forests and the change expected from the proposed project. The EIS should analyze "plume blight" and the impact on parks and wilderness and scenic areas.

5. **Odor Impacts:** The EIS should investigate the effects of plant operation on odor in the region.

6. **Air Pollution Deposition**: The EIS must analyze the impacts of air deposition on agriculture (including silviculture) on all state and federal protected lands, and endangered and threatened species. This analysis should include all criteria and hazardous air pollutants including nitrogen, sulfuric acid, cadmium, nickel, and should consider the recently completed consultation analysis conducted for the Indeck-Energy coal plant project in Will County, Illinois.

B. Mercury and other Hazardous Air Pollutants

The EIS should analyze the environmental, health, and economic impacts of mercury pollution from The Mesaba Project. Coal-fired power plants are the single largest source of mercury emissions in the nation. Mercury emitted from coal plants, and even cleaner IGCC plants that are similar to the proposed Mesaba Project, becomes methylmercury in the environment where it becomes toxic in even minute amounts. According to the FDA standard, it would only take 1 pound of methylmercury to contaminate 500,000 pounds of fish which when consumed by humans and wildlife can pose a health risk. The U.S. EPA has found that up to 1 in 6 women have levels of mercury in their blood above the safe standard, putting their future children at risk for learning and behavioral problems associated with mercury poisoning. The concern of mercury pollution is especially salient for The Mesaba Project due to the proximity of the plant to important fishery resources in the Great Lakes.

Even small amounts of mercury can have significant negative impacts. As a result, the Sierra Club requests as part of the EIS:

1. Modeling of the impact of mercury emissions on local deposition and accumulation in regional water bodies from the Mesaba Project, including the effects on impaired water bodies listed as mercury impaired under section 303 of the Clean Water Act. Waters that may be impacted by the project must be tested to determine if they are "impaired" as part of the EIS so decision makers have this important information.

2. Quantification of the healthcare costs and future damages of lost productivity resulting from mercury pollution, and any impacts on piscivorous wildlife.

3. A consideration of the disposal plans for mercury and other solids captured in the course of operation.

4. An investigation into how the proposed plant would impact the Total Maximum Daily Load (TMDL) mercury reduction plan currently being drafted by the Minnesota Pollution Control Agency (MPCA) to bring Minnesota's impaired waters into compliance with the federal Clean Water Act.

In addition to mercury, coal plants emit other hazardous air pollutants (HAPs), including lead, arsenic, beryllium, nickel, and cadmium. The EIS should at a minimum consider the impact of the above-mentioned HAPs (including mercury) in air modeling and in healthcare cost estimates.

C. Carbon Dioxide and Climate Change

In 2005, the national science academies of 11 nations, including the United States, sent the following message to the G8 summit:

> Climate change is real. There will always be uncertainty in understanding a system as complex as the world's climate. However, there is now strong evidence that significant global warming is occurring. .... The scientific understanding of climate change is now sufficiently clear to justify nations taking prompt action.... We urge all nations.... to take prompt action to reduce the causes of climate change.... We call on world leaders ... to [a]cknowledge that the threat of climate change is clear and increasing."[1]

This is not the first time scientists have expressed concern about the severity of global warming. In addition, the Intergovernmental Panel on Climate Change, the National Academy of Sciences, the American Geophysical Union have all forewarned of the dangers of continued inaction regarding global warming (climate change).[2] One only has to compare the levels of CO_2 emissions of other nations - and their efforts to reduce them - to our own to quickly realize that the United States must soon take serious steps to reduce CO_2 emissions in order for our planet to address global warming[3]. This includes both voluntary measures by utilities and the inevitable regulatory measures that will make coal relatively more expensive as a future source of electricity.

1. **CO_2 Emissions:** Coal plants are a major source of emissions of the greenhouse gas: carbon dioxide (CO_2). In 2000, coal plants contributed 32% of all carbon dioxide emissions in the U.S. Estimates have shown that The Mesaba Project is expected to be one of the largest single sources of CO2 emissions in Minnesota.

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[1] This statement was issued by the US National Academy of Sciences and its counterpart academies in Brazil, Canada, China, France, Germany, India, Italy, Japan, Russia, and the United Kingdom. It is available online at the website of the U.S. National Academies at http://nationalacademies.org/onpi/06072005.pdf.

[2] See, e.g., IPCC TAR; "Climate Change Science: An Analysis of Some Key Questions," 2001, National Academy of Sciences, http://books.nap.edu/books/0309075742/html/; and "Human Impacts on Climate," December 2003 statement by the American Geophysical Union, http://www.agu.org/sci_soc/policy/climate_change_position.html.

[3] One small step the U.S. may take to reduce CO_2 emissions is demonstrated by a recent resolution passed by the U.S. Senate that calls for binding caps on CO2 emissions.

In the EIS, the emissions of The Mesaba Project should be quantified and expressed in terms of tons per year and percent increase from the Minnesota power sector. In addition, it should be calculated in both annual terms and over the working lifetime of the facility.

2. **Environmental Impact of CO2 Emissions:** The CO_2 emissions released by the coal plant will mix with global emissions and contribute to global impacts. It is thus impossible to allocate particular environmental impacts to particular plant emissions. However, NEPA particularly urges federal agencies to "recognize the worldwide and long-range character of environmental problems." NEPA, section 102(F). Since global climate change is probably the greatest single environmental threat the planet faces, and since coal plants are such an enormous source of greenhouse gases, the fact that particular impacts cannot be associated with particular emissions should not be an excuse for failing to consider the environmental impacts of the plant's CO_2 emissions. Indeed, the EIS cannot be considered adequate unless it makes a serious effort to estimate the plant's contributions to global warming.

   It is possible to estimate the costs of CO_2 and other greenhouse gas emissions from the plant using a cost/ton externality value methodology. The EIS should survey the most recent literature estimating total global warming costs and allocating those costs on a cost/ton of CO_2 basis. Given the wide range of externality values available, the EIS should reflect low estimate, best estimate, and high estimate externality values and explain how each were calculated. These cost/ton externality values should then be multiplied by the estimated lifetime CO_2 emissions of the plant to attempt to put some boundaries on the contribution of this plant to global warming.

3. **Alternative Sources of Emissions Reductions:** If society is to prevent dangerous climate change, it will need to make dramatic reductions in its CO_2 emissions during the next half century – perhaps on the order of 60-80% in developed countries. If The Mesaba Project is allowed to be built, its annual CO_2 emissions will eventually have to be offset by other CO_2 sources in society. The EIS should look at the costs imposed on society by having to offset these CO_2 emissions from other sources. For example, how many automobiles would have to be removed from the roads to offset this new coal plant? It has been estimated that a traditional 1000 MW coal plant emits roughly the same as 2 million cars; CO_2 emissions from The Mesaba Project would probably equal over a million cars. What cost would these or similar reductions impose on society?

4. **Carbon sequestration:** While sequestration of CO2 emissions may not be required under statute or included in any formal project proposal, some discussions of the Mesaba Project have mentioned carbon sequestration as a possible means of addressing atmospheric emissions of CO_2. The EIS should consider:

a) in what ways sequestration is possible or beneficial for this project.

b) what technical modifications are necessary to effect sequestration, and their cost.

c) what geographic locations would be considered for sequestration, and the environmental and cost effects of the sequestration.

d) the means by which CO_2 would be transported to the sequestration site.

e) the success, if any, of other sequestration projects in other power plants, especially coal-gasification plants.

D. Solid Waste/Ash Management

A proper solid waste and ash management plan for the lifespan of the proposed plant is critical. The EIS should thoroughly address the adequacy of the details of the storage plan, its location, the safety of long-term storage, a chemical analysis of the proposed waste (include what percentage of the ash is unsuitable for sale and the composition and risk of on-site storage of this ash), the feasibility of marketing ash as a commodity, and the impact of waste disposal on ground water supplies and nearby ecosystems. In addition, the costs for cleaning up environmental contamination from poor ash management should be considered.

III. THE MESABA PROJECT IMPACTS – WATER RESOURCES

Where relevant, the EIS analysis of water resource impacts should be quantified for each project phase and for cumulative totals, and should specify responses for the different feedstocks anticipated.

A. Wastewater Contamination

The EIS should identify and quantify wastewater contamination resulting from The Mesaba Project.

At the Wabash plant upon which The Mesaba Project is based, there is a history of unresolved water permit violations, including violations of the permit and/or health standards for levels of selenium, cyanide, and arsenic. In light of this, the EIS should address how the wastewater treatment at The Mesaba Project will be different to avoid replicating similar problems. This should include a discussion of lessons learned from Wabash, and a specification of modifications necessary to adequately address the levels of these and other compounds.

Will wastewater be recycled into the system after treatment? If so, at what percentage? For wastewater not recycled into the system, the impacts of this magnitude of wastewater on the proposed drainage system should be identified.

B. Sources of Water for Plant Operation

The Mesaba Project is estimated to use 6,500 gallons of water per minute.

The EIS should examine exactly what amounts of water resources are necessary for plant construction and operation for each project phase. In addition, the EIS should examine where this water would come from, the feasibility and means of tapping that water, and the environmental and economic costs involved in extracting water resources. If all water resources are not pre-identified and available for each project phase, the EIS should question whether or not initial phases of the project should proceed.

C. Impact on Wetlands

The EIS should analyze the environmental, recreational, and economic impacts of the destruction of all wetlands affected by The Mesaba Project application.

The Mesaba Project EIS should fully account for the destruction of wetlands. Because of the unique value of wetlands to this region the EIS should account for any destruction of wetlands and alternatives to that destruction. Wetlands are extremely important to Minnesota financially, aesthetically, and functionally. Wetlands provide vital nutrients for many species, decrease flooding impacts, purify water, create habitat for a wide range of plants and animals, and provide waterfowl habitat benefiting bird-watchers, hunters, and other outdoor enthusiasts. The EIS should examine the cumulative impacts of the disappearance of wetlands and the impact on species, flooding, water purification, and both game and non-game wildlife habitat, the economic losses due to negative impacts on recreational uses of wetlands, and should provide alternatives to their destruction and/or detailed mitigation plans.

IV. THE MESABA PROJECT IMPACTS – ENDANGERED SPECIES

The EIS should explore the risk of construction and operation of the Mesaba Project on federal and state listed federal and endangered species that occur in the area, to ensure adequate protection of these species. DOE must consult with the U.S. Fish and Wildlife Service to analyzed and identify all endangered species that may be affected by the proposed project, including from air pollution deposition.

V. THE MESABA PROJECT IMPACTS – COAL MINING, COAL HANDLING, TRANSPORT, AND CONSTRUCTION AND OPERATION

A. Coal Dust

The EIS should include an analysis of a detailed plan for coal handling and all forms of transportation from construction through continued operation. This analysis should seek to minimize fugitive dust emissions from coal handling, construction, and transportation. In addition, it should include air emissions of transportation of coal, type of road surface and potential for fugitive dust emissions, physical design of the coal storage area, disposal of coal

combustion waste, and an examination of health risks associated with emissions from coal handling and transportation during construction and operation.

B. Coal Mining Impacts

The environmental impacts of mining of coal for this facility is a related action and must be analyzed in the EIS. The EIS should examine the incremental impacts of this project on potential source coal mining areas, as well as the the impacts of mining on wildlife, people and water quality.

VI. THE MESABA PROJECT IMPACTS - NOISE

The EIS should consider the auditory impacts of construction, operation, and transportation related to The Mesaba Project on the surrounding environment and community, including noise levels, the time of day of increased noise, and how they relate to MPCA thresholds and the Arrowhead noise mitigation order.

VII. THE MESABA PROJECT IMPACTS – AESTHETICS

The EIS should consider the proposal's impacts on scenic resources, including, but not limited to:

1) exterior lighting;

2) light pollution at night;

3) height of stacks and cooling towers, and their visibility from surrounding area, especially in tourism-sensitive areas; and,

4) visibility and color of plume in different conditions.

VIII. THE MESABA PROJECT IMPACTS – LOCAL EXISTING ECONOMIES AND FUTURE DEVELOPMENT

The EIS should consider economic impacts of existing economies and future development. With existing economies, the EIS should consider the impacts on tourism and recreation industries in the area.

Regarding future development, it is important to remember that The Mesaba Project represents an ongoing commitment to this facility that will have a long-lasting ripple effect on economic development in the Iron Range and beyond. The Mesaba Project, as proposed, is a roughly $2 billion dollar investment. Excelsior Energy Inc. has quantified the expected economic advantages in terms of jobs and local and state taxes. The EIS should quantify the potential lost economic opportunities in terms of jobs, taxes, and local income from choosing The Mesaba Project over the alternatives highlighted in section IX of our comments.

IX. THE AGENCY MUST COMPARE ALTERNATIVES AND EXAMINE THE BENEFITS OF RENEWABLES

A. Factors to Consider in Alternatives Analysis

The EIS should include a very thorough analysis of alternatives to The Mesaba Project. This is particularly important given the tremendous changes currently underway in the power sector, as renewable technologies like wind and biomass achieve ever greater levels of efficiency and economic viability, and as future CO_2 regulations are likely to emerge, further changing the economics and technology of power production and use. The fact that the The Mesaba Project would be located in a region with some of the best renewable energy resources in North America means there are many alternatives worth considering, for this or another location.

Extra consideration of this project is especially crucial because of DOE's stake in the project. Without DOE funding this project would likely not proceed, and DOE therefore has an extra responsibility to ensure that The Mesaba Project is the best possible proposal.

The alternatives analysis should address two fundamental questions:

1. Is the energy needed at all? Or could greater investment in demand side management (DSM) meet our needs without any of the environmental or health impacts of this proposal? Studies have shown that investments in energy efficiency can yield demand reductions at lower cost than building new power sources. The EIS should look at the DSM investment levels and achievements of the utilities in question, to see if they have squeezed from their systems all the efficiency improvements they could at a lower total cost to society than the The Mesaba Project unit would impose. The EIS should also consider the utilities' demand forecasts and consider whether they are reasonable.

2. If additional energy is needed, is additional coal - using IGCC technology or otherwise - the appropriate choice? The region that would be served by the The Mesaba Project has an enormous amount of unexploited wind and biomass potential. The EIS should explore and compare various clean energy alternatives to The Mesaba Project, including a discussion of environmental, economic, and health impacts for the local community and the areas affected by The Mesaba Project's proposed plume.

B. Economic and Social Factors Must be Considered

The EIS alternatives analysis should look not merely at direct environmental impacts of the various alternatives, but at the socioeconomic ones too. NEPA encourages federal agencies to use "a systematic, interdisciplinary approach, which will ensure the integrated use of the natural and social sciences" in looking at the impact of projects. NEPA, section 102(A). Particular attention should be paid in the analysis to two major socio-economic factors:

1. **Likelihood of future CO_2 allowance costs.** When comparing the costs of the various options, it is critical to keep in mind that the era when CO_2 could be emitted for free is almost surely coming to an end. When it does, it will

dramatically change the economics of electricity production and use, greatly disadvantaging coal power compared to all other sources of power production. This will surely trigger additional improvements in renewables like wind and biomass, as these industries mature and take advantage of technological advances, government incentives, and economies of scale.

Increasingly the realization of the impacts of carbon dioxide on the environment in the form of global warming is leading to actions to reduce carbon dioxide emissions. Fitch Ratings Global Power Group released a report in October 2004 that anticipated carbon regulation within 10 years. Additionally, in 2003, Xcel Energy's Vice President of Resource Planning and Acquisition testified before the Colorado Public Utilities Commission that carbon regulations should be considered by utilities purchasing the power rather than the generation owner to avoid double payment by the utility and its customers.[4] Further, the testimony estimates proposed $6/ton; however, it also recognized a range between $12/ton to $40/ton. The Colorado Public Utilities Commission decided on a cost of $8/ton CO_2.

In December 2004, the California Public Utilities Commission "will now require utilities to account for carbon and other heat-trapping gases when considering the use of fossil fuel plants, and considers cleaner sources more cost-effective if they prevent carbon emissions at a cost of less than $8-25/ton."[5] The Sierra Club believes this is further proof that carbon regulations are a reality that The Mesaba Project must consider and requests running an analysis with carbon regulations at four levels: $8/ton with a 9% and 10.5% annual increase and $20/ton with a 9% and 10.5% annual increase.[6] To avoid future impacts on rates, these costs should be considered in the costs of the facility.

2. **Alternative economic development the region could enjoy from pursuing wind, in-stream hydro, and closed-loop biomass.** As a windy, forested, agricultural region, there is great potential for regional benefits from electricity production, particularly from wind, in-stream hydro and closed-loop biomass on disturbed mine-lands. The Mesaba Project would use up a major share of the power market and transmission line capacity, crowding out renewable energy development that would be preferable both economically and environmentally.

[4] Eves, David. Rebuttal Testimony before the Public Utilities Commission of the state of Colorado, Docket No. 04A-214E – 04A-216E, p. 18

[5] " California Utilities Required to Account for Global Warming Gas Costs", Union of Concerned Scientists, www.ucsusa.org/clean_energy/renewable_energy/page.cfm?pageID=1600

[6] McFarland, James R. et al., "The Future of Coal Consumption in a Carbon Constrained World",4/29/2004, M.I.T., http://web.mit.edu/10.391J/www/proceedings/McFarland2004.pdf .

C. Particular Alternatives to consider

For each of the alternatives listed below, the EIS should consider the costs of the Mesaba Project in a per megawatt basis and compare per megawatt costs of energy efficiency, wind, solar, biomass, and combined-cycle natural gas (including co-generation). Additionally, for each of these alternatives their cost should be calculated assuming future CO_2 regulation based on the California PUC range of estimated future CO_2 costs ($9-$27/ton)

1. **Demand Side Management (DSM) Alternative:** If the projected energy demand that is to be fulfilled by this proposal is legitimate, the Sierra Club requests the scope of the EIS includes an analysis and discussion of an alternative to The Mesaba Project which addresses energy efficiency and demand side management. In this analysis and discussion, we request information on each of Excelsior's current DSM programs and what they are proposing in the next 5-15 years.

2. **Wind + closed-loop biomass + DSM + In-stream Hydropower:** The Sierra Club requests the scope of the EIS includes an analysis and discussion of an alternative to The Mesaba Project which incorporates wind energy, biomass, and DSM to reduce and serve the projected base-load need.

   The project's original proposal included 1,000 MW of wind power in the project when requesting favorable terms for transmission line development (eminent domain) and requirements that existing investor utilities negotiate to by the Mesaba Energy electricity. The EIS must evaluate the alternative originally proposed by Mesaba to the Minnesota Legislature.

3. **Wind + natural gas or closed-loop biomass:** The areas in Minnesota near this site have high wind energy potential. The Sierra Club requests the scope of the EIS includes an analysis and discussion of an alternative to The Mesaba Project, either at this or another location, which incorporates a majority of the baseload need from wind energy with adequate back up generation from natural gas or closed-loop biomass on disturbed mining sites.

D. Alternative Locations:

There is an urgent need to determine whether CO2 capture and storage is a long term viable possibility. Our understanding is that the proposed location has no possibility for CO2 capture because of the local geology. We urge that DOE consider alternative locations for this proposed project where CO2 capture and storage could be demonstrated.

The Sierra Club wishes to express its appreciation for your consideration in reviewing these comments. We look forward to working with you as this project progresses.

Sincerely,

Christopher Childs
Chair, Clean Air Committee
North Star Chapter of the Sierra Club