



## Mesaba Energy Project Citizens Advisory Task Force Final Comments and Recommendations



A Citizens Advisory Task Force (CATF or Task Force) was established by the Public Utilities Commission (PUC) to provide input to the Scope of the Environmental Impact Statement (EIS) for the Mesaba Energy Project (MEP). The Task Force was charged with the following three tasks:

1. Whether local site or route specific information as presented within the Joint Permit Application is inaccurate or missing information;
2. What site or route specific impacts and issues of local concern should be assessed in the EIS; and
3. The task force shall express a preference for either the preferred or alternative site contained within the Joint Permit Application if a consensus can be reached.

Task Force members were selected by the Department of Commerce (DOC or Department) based on the responses to a solicitation letter. The Department selected the following members to serve on the Task Force.

Name	Organization
Edwin Anderson	Citizen, Bovey
John Chell	Arrowhead Regional Development Commission
John Dimich	Itasca County Commissioner
Gary Forsberg	Greenway Area Business Association
Mike Forsman	St. Louis County Commissioner
Ross Hammond	Fresh Energy
William Hansen	Taconite City Council
Steve Kneifel	Fayal Township Board
R.D. Learmont	Citizen, Warba
David Lotti	Mayor, Marble
Bill Moraski	Citizen, Hoyt Lakes
Marleen Pospeck	Mayor, Hoyt Lakes
Arnold Rudolph	Hoyt Lakes City Council
Fred Tanner	Trout Lake Township Board
Jack Whiting	Citizen, Hoyt Lakes

The discussions of the Task Force were facilitated by Jeffrey Haase a staff member of the DOC Energy Facilities Permitting unit.

The task force met three times during the month of August, task force meetings were held on the following dates:

1. August 9, 2006, from 1:00 – 3:00 at the Trout Lake Township Community Center
2. August 23, 2006, from 2:00 – 5:00 at the Hoyt Lakes Community Building

3. August 30, 2006, from 1:00 – 3:00 at the Taconite Community Center

During the first meeting of the CATF the members received all of the application materials along with an extensive discussion of what the charge and expectations of the task force members were. Task Force members provided comments during the task force meetings as well as individually to the Task Force facilitator. Comments were then compiled by the Task Force facilitator and sent to all members for review.

Task #1 and task #2 were completed by compiling all of the comments of the individual members of the task force. Due to the time constraints there was not an opportunity for the Task Force to discuss individual comments and reach a consensus as to whether or not the comment represented the view of all members of the CATF. Consequently some of the comments provided may present views that are not necessarily shared by all Task Force members.

With respect to Task #3, that the Task Force shall express a preference for either the preferred or alternative site contained within the Joint Permit Application if a consensus can be reached. In an attempt to facilitate the discussion of which site should be indicated as the preferred site a number of evaluation criteria were selected in an attempt to develop a quantitative evaluation of the two sites. During the second meeting the evaluation criteria and weightings were selected by the task force members, and a general consensus was reached on both the evaluation criteria and the weighting of each of those criteria. The evaluation matrices were then provided to each member to fill out the rankings of each evaluation criteria for each site prior to the third meeting.

Rankings were to be assigned to each of the evaluation criteria based on a scale of 1 – 10, with 10 representing the greatest impact. Once rankings had been assigned for each of the listed criteria, a quantitative measure of each site could be arrived at by multiplying the ranking and the weighting and summing the products of all of the evaluation criteria for each site. From the weighting and ranking criteria that were chosen the site with the lowest score would have the perceived lowest impact. One of the difficulties of choosing a preferred site at this stage in the process is that there are a number of questions that have yet to be answered. While one can make the assumption that these questions will be answered satisfactorily, making a site selection at this point is largely a subjective exercise. The subjective nature of this exercise is the main reason that one member did not complete the evaluation matrices. The evaluation matrices are shown on the following page.

**Evaluation Matrices**

<b>West Range Site</b>			<b>East Range Site</b>		
<i>Rank each item 1 - 10 with 10 being the greatest impact</i>			<i>Rank each item 1 - 10 with 10 being the greatest impact</i>		
<b>Evaluation Criteria</b>	<b>Weight</b>	<b>Ranking</b>	<b>Evaluation Criteria</b>	<b>Weight</b>	<b>Ranking</b>
Aesthetics	15		Aesthetics	15	
Noise	5		Noise	5	
Public Costs	25		Public Costs	25	
Public Safety	20		Public Safety	20	
Residence Impacts	20		Residence Impacts	20	
Tourism/Recreation Impacts	10		Tourism/Recreation Impacts	10	
Social Impacts	10		Social Impacts	10	
Air Quality	25		Air Quality	25	
Water Quality	25		Water Quality	25	
Construction Impacts	10		Construction Impacts	10	
Greenfield vs. Brownfield	25		Greenfield vs. Brownfield	25	
Industrial Ecology	20		Industrial Ecology	20	
Process Water	25		Process Water	25	
Waste Water	25		Waste Water	25	
Rail Impacts (Construction)	15		Rail Impacts (Construction)	15	
Rail Impacts (Human)	20		Rail Impacts (Human)	20	
Roads	10		Roads	10	
Transmission ROW Impacts	20		Transmission ROW Impacts	20	
Natural Gas ROW Impacts	20		Natural Gas ROW Impacts	20	
Sensitive Area Impacts (Plant)	15		Sensitive Area Impacts (Plant)	15	
Sensitive Area Impacts (HVTL)	15		Sensitive Area Impacts (HVTL)	15	
Sensitive Area Impacts (Nat Gas)	15		Sensitive Area Impacts (Nat Gas)	15	

Thirteen of the members submitted completed evaluations matrices, the results indicated that seven members felt the East Range site had a lower impact, while five members felt the West Range site had a lower impact. One member determined that the impact between the two sites was essentially equal. This determination was based on identifying the differentiating criteria between the two sites and adding up the weightings associated with those criteria.

The final scores were:

	<b>West</b>	<b>East</b>
<i>1</i>	2825	<b>2470</b>
<i>2</i>	<b>1240</b>	3410
<i>3</i>	3215	<b>1030</b>
<i>4</i>	2585	<b>1585</b>
<i>5</i>	3095	<b>1950</b>
<i>6</i>	3055	<b>1410</b>

	<b>West</b>	<b>East</b>
<i>7</i>	2420	<b>2145</b>
<i>8</i>	<b>565</b>	1020
<i>9</i>	<b>2165</b>	2475
<i>10</i>	<b>2125</b>	2575
<i>11</i>	2605	<b>1910</b>
<i>12</i>	<b>1835</b>	2770

From both the scores and comments that were received from individual members it was clear that the CATF would not be able to reach a consensus on which site would be indicated as the preferred site of the CATF.

During the final meeting of the CATF several members expressed an interest in developing statements related to the project that could be supported by all members of the CATF. Consensus, i.e. support of all members of the CATF, was not reached on any of the proposed statements, but a majority of the task force members voted affirmatively on the following statements:

- This Task Force recommends that a site or sites be permitted and built on the Iron Range, assuming that all environmental concerns are considered and adequately addressed in the Environmental Impact Statement.
- This Task Force recommends that any analysis of cumulative impacts only be conducted on projects that have the necessary permits in place to proceed with the construction of the facility.

There was a general consensus that the amount of information was quite daunting and that an adequate review of all of the materials in the timeline that had been imposed was very difficult. Task force members agreed that additional time for review would have been helpful in achieving the stated charge of the Task Force. This additional time may have also provided an opportunity for a greater level of group discussion on individual statements and comments. The Task Force meetings that did take place resulted in very thoughtful, objective discussion among all members and they are to be commended for their efforts in highlighting their local concerns and providing their comments on the proposed project.

## **Comments on Task 1**

### ***Whether local site or route specific information as presented within the Joint Permit Application is inaccurate or missing information.***

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#### ***Comments on Table 2.7-1 in the JPA (Page 129)***

The comparison tables are not complete/ correct as shown:

#### **Aesthetics & Electric Transmission**

“West Range HVTL is shorter.” this is not true as additional transmission lines will be required at the West Site.

#### **Public Services**

The new infrastructure could be able to serve other businesses at the east site as well.

#### **Tourism**

Any benefit from the lower levels in the lake may be offset by the deterioration in Water Quality over time. This table needs to reflect all aspects and impacts.

#### **Air Quality**

The table says that the West site will have less impact on the BWCA since it is further away, however due to prevailing winds being from the west and south west, the West site may have a much more significant impact on the BWCA since emissions may travel in this direction more of the time. The EIS needs to provide wind direction as a function of time for each site and also by season in order to be able to determine exactly what the level of emissions are for each site and to be able to make an accurate comparison.

#### **Railroad/ Truck**

The table does not mention that the East Site has existing railroad right of way adjacent to the site. The West site will require a number of miles of railroad right of way including some crossings of residential property.

#### **Energy Efficiency**

The table is not complete. The table does not mention the additional transmission line losses at the West Site that result from the POI to the users at Xcel Energy vs. the East Site.

The table also mentions the additional energy required to run the ZLD system at the East Site but does not address the energy required to pump water to the West Site. The Table should reflect all parasitic energy uses correctly.

#### ***Section 7.6.1 JPA (Page 443) Water Resources and Water Quality- Canisteo Mine Pit & Section 1.12.4.2.2(A)1 Environmental Supplement: Water Sources – Existing Information, CMP Complex (Page I-344)***

These sections are inaccurate in that they minimize the recreational importance of Canisteo Pit. The Canisteo Pit is a super clear 5 mile long oligotrophic water body. The pit experiences more than “occasional” recreational use as described in the JPA, although “occasional use” is not defined. This report also describes low amounts of nutrients and biota, but this would be

expected in any oligotrophic system, and the report is inaccurate in that it describes the lake as a “resulting poor fishery”. The fish survey report used in the JPA appears to have been taken prior to the occurrence of lake trout stocking, and from personal experience and local anecdotal reports this lake has developed into an excellent lake trout and crappie fishery.

Fish in the Canisteo Pit, especially lake trout as they are a fatty fish, will bioaccumulate increasing levels of mercury over time due to cooling tower blowdown discharge as described in *JPA Appendix 6 Section 5*. Excelsior Energy should address how this will affect fish consumption advisories over time. In addition, lowering water levels, especially over the winter, could expose lake trout eggs on shoals and negatively impact the fishery. In addition, introducing Prairie River water into Canisteo Pit could accelerate eutrophication due to much higher levels of phosphorous in the Prairie River.

Excelsior Energy also proposes to remove the MDNR Buckeye Mine Pit boat launch and close Canisteo Pit to recreational use for “safety, security, and operational reasons”. The DNR and Western Mesabi Mine Planning Board are working to stabilize Canisteo Pit near the 1300ft-msl elevation with a siphon to Trout Lake. This would allow permanent access facilities to be established on the south shore near Coleraine, Bovey, and/or Taconite with resulting improvement in the water quality of Trout Lake and increased access to recreational use of Canisteo Pit.

***Excelsior Energy should avoid introducing higher phosphorous water into Canisteo Pit, and commit to maintaining the Canisteo Pit level within a range compatible with fish reproduction and permanent recreational use facilities.***

***Section 1.8.2.1.4 Environmental Supplement: Sanitary Discharges (Page I-178)***

This section gives options for sanitary water discharges including MEP building its own WWTF vs. use of Bovey/Coleraine/Taconite WWTF.

The B/C/T WWTF already has problems with excess flow. Since 1999 there have been six separate events resulting in discharge to prior Cleveland Cliffs basins and Holman Lake. The MEP would further burden a system in need of attention and upgrade. If Excelsior dismisses building a WWTF in favor of using B/C/T:

1. How and when will this WWTF be updated?
2. This is a local issue in that there will be a direct financial impact on the local municipalities. What technology upgrades need to be evaluated if the local municipal WWTF is utilized for the MEP. What is the cost of this upgrade directly attributable to the MEP, and how does this compare to potential cost shifting to the public at the East Range Site?

***Section 1.8.3.2 Environmental Supplement (Page I-201)***

This section states that the IGCC Power Station will play an important long term role at the West Range Site in regard to flood prevention of the CMP waters, and will be an important “pollution prevention feature.” *This paragraph is inaccurate in that:*

1. The project plan as described will direct cooling tower blowdown (CTB) discharge water to the Canisteo Mine Pit which currently has clarity to depths of over 50 ft. The CTB discharge water will result in increasing levels of mercury, sulfates, TDS, etc. If the company's statement is to be accurate, they need to commit to ZLD on the CTB.
2. Flood control of the Canisteo water will be accomplished through a planned siphon independent of the MEP. This siphon will be built regardless of if the MEP is approved or not. Trout Lake water quality will benefit from the discharge of low phosphorous CMP water to Trout Lake. The Trout Lake Association is on record as being in support of receiving water from this siphon, and a recent survey cited by lake association members revealed Trout Lake residents to be in favor of siphoning CMP to Trout Lake by an 8:1 vote.

#### ***Section 1.5.2.4 Environmental Supplement Proposed Gas Pipeline Routes (Page I-79)***

This section describes NG pipeline preferred routes and alternatives. *The information is deficient in that:*

1. The proposed routes do not detail or compare the number of properties on existing corridors vs. new corridors.
2. There is an existing NG pipeline (Northland?) from Virginia and Hibbing that currently goes to the MSI site, and is much closer to the proposed MEP West Range Site. This route would appear to have significantly less impact on landowners and would follow an existing corridor. ***Why is this route (with the required upgrade) not included as an alternative to the routes proposed?***

*Issues of local concern include:*

1. Alternative 3 appears to have the least impact on undisturbed land, is the shortest route, and has more existing corridor than the preferred option. How many property owners are in the new corridor vs. existing corridor for this proposal?
2. Alternative 2 is the longest route, but has over 10 miles of existing corridor and 5 affected property owners. How many property owners are in the new vs. existing corridor for this route?
3. Explain why, in light of the above questions, Alternative 1 is preferred.

#### ***Environmental Supplement West Range Plan HVTL (Figure 1.5-14 & Pages I-45 to I-50)***

This plan shows HVTL route proposals from the plant site to the Blackberry substation. There is significant local concern regarding these routes, as well as the needed upgrades beyond Blackberry. The information is incomplete in that:

1. The preferred route selection and alternatives do not list the amount of existing right of way vs. need for new property easements along each proposed route.
2. A list of affected landowners is not included, nor have landowners been notified.
3. HVTL routes should include information on landowners already affected by existing right of way, and separately identify landowners who will be affected by new right of way.

4. Identify the necessary upgrades required beyond Blackberry as well as the landowners affected by these upgrades.

***Section 1.8.2.2.4 Environmental Supplement: Waste Water Discharge (Page I-195)***

This section states that key water quality constituents associated with Outfall 001 and 002 discharges will be mercury, TDS, and hardness. It also states that the mass of mercury discharged to Holman Lake through Outfall 002, combined with the mass of mercury discharged to Panasa Lake from the HAMP will not exceed the mass of mercury currently permitted to be discharged to Panasa Lake under existing NPDES Permit No. MN0030198 currently held by the Minnesota DNR. Panasa and Holman Lake are tributary to the Swan River and Mississippi.

**The next statement, “Therefore, this system will not contribute additional pollutants to the Swan River watershed.” is inaccurate and misleading.**

To correct this, the company needs to:

1. Acknowledge that additional mercury, sulfates, phosphorus, dissolved solids, and suspended solids will be present in this discharge stream, leading to an overall increase of these constituents in the Swan River/Mississippi tributary system.
2. Accurately and completely describe the makeup and amounts of the constituents described above.
3. Quantify the *current* mass or concentration of mercury discharged to Panasa Lake from the HAMP under NPDES permit No. MN0030198.
4. Address increased concentrations of phosphorus to this discharge stream (JPA Appendix 6 Section 5) and how this relates to the Annondale-Maple Lake Court Decision (currently under appeal) which does not currently allow for any new source NPDES/SDS permits above Lake Pepin.
5. Address the ability to use NDPEs permit No MN0030198 vs. the need for a new permit.
6. Address and completely describe the relationship and impact of mercury and sulfur with regard to increased methyl-mercury formation and discharge limits on methyl-mercury to the Swan River system.
7. Thoroughly address the discharge of mercury and sulfur to wetlands and the anaerobic conditions of this environment leading to formation of methyl mercury.
8. Address the potential for discharge limits for methyl mercury (including secondary formation in the above environments) in addition to a total mercury discharge limit.
9. Thoroughly address the above issues with regard to increasing levels of sulfur, mercury, TDS, etc in the source water over time due to operation of the plant at the west site.

10. Quantify the average and maximum amount of dissolved solids due to concentration of TDS in this discharge stream, and identify subsequent impact on Holman Lake, Swan River, and the Mississippi River.

11. Address how adjustments of water discharged directly to Holman Lake (“every 5 years, or as needed during Phase I and II operation, to limit the mass of mercury discharged”) will further impact quality of the Canisteo waters.

***To correct these important issues of local concern, Excelsior Energy would need to incorporate a Zero Liquid Discharge system for the cooling tower blowdown at the West Range Site, similar to what has been proposed for the East Range Site.***

***Section 1.12.4.2.2A(1) Environmental Supplement: Water Sources - Existing Information, CMP Complex(Page I-343)***

**This section is inaccurate and incomplete in that it does not adequately address pollution of Canisteo Pit and potential for municipal water supply contamination as explained below.**

The JPA to the MPUC proposes drawing process water from four sources and sending discharge water to Canisteo Pit with a minor restricted flow to Holman Lake. Most of the process water will be lost to evaporation in the cooling towers. The remaining discharge waters will have increased levels of mercury, phosphorus, sulfate and other dissolved solids. This results in a continuous increase in the contamination of Canisteo Pit as documented in Appendix 6 of the JPA.

The south wall of the old Canisteo pit cuts through all geological layers above the iron ore body. The upper layer is glacial deposits from the last Ice Age. Studies by USGS (*Water-Resources Investigations Report 02-4198*) show a south flow of ground water from Canisteo Pit to Trout Lake. The municipal wells for Bovey and Coleraine draw water from aquifers in this glacial layer.

*Section 2.5.2.3 JPA Environmental Supplement II-116* describes the nearby public water supplies for Bovey and Coleraine as having a possible hydrologic connection between groundwater captured by wells and local surface waters. The Minnesota Department of Health has found high tritium concentrations in groundwater pumped from these public water supply wells indicating that the water supply is more sensitive to land surface activity and more vulnerable to potential contamination.

These municipal wells appear to recharge fairly quickly, and because the iron ore body at the south end of Canisteo Pit slopes southward toward Bovey/Coleraine, gravitational flow of subsurface water would also be in this direction. Thus it appears that these aquifers are at risk for contamination as Canisteo Pit is polluted.

*Section 5 JPA Appendix 6* shows that over time, (approximately 30 years), Canisteo Pit process water will have significantly increased levels of mercury, sulfates, and hardness. Water discharge will eventually exceed the mercury water quality standard of 6.9 ng/L. Canisteo water will exceed water quality standards for hardness and total dissolved solids (TDS) necessitating treating the power station effluent or further reducing the cycles of concentration. Mercury concentrations in Canisteo Pit will rise from 0.9 ng/L to 2.2 ng/L. There only a vague plan in Appendix 6 Section 5.2.2.1.1 for dealing with this problem.

This same scenario is taking place at Minntac now whereby the process water supply has become heavily polluted over the life of the plant. This water now has super-high levels of sulfates and hardness causing heavy scaling and makes water discharge issues extremely difficult and complex.

Polluting Canisteo Pit puts municipal wells at risk for contamination, will make Power Station use of this water inefficient, and will eventually make this water difficult if not impossible to discharge. The life of a power plant is not forever, and at some time in the future, we will need to deal with the issue of discharging polluted Canisteo water as surface levels rise. How will this be accomplished if the water exceeds quality standards, especially if future mercury standards for Swan River and Mississippi River are lowered similar to Lake Superior standards?

At this time, we have the potential for using Canisteo water to improve the water quality in Trout Lake. If the MEP is built on the West Range Site, we lose this opportunity, and we also lose the opportunity to keep and continue to develop an excellent recreational lake and lake trout fishery.

***Excelsior Energy needs to address the problems defined above as it would be irresponsible for the company to ignore the future reality of this important issue. Committing to Zero Liquid Discharge on cooling tower blowdown discharge water from day one of operation appears to be the only way to prevent this situation from occurring.***

A study entitled ***Air Quality and Health Benefits Modeling: Relative Benefits Derived from Operation of the MEP-1/II IGCC Power Station***, prepared by ICF consulting for Excelsior Energy and dated December 14, 2005 should be included in the JPA. In addition:

- The above reference study should be prepared/modeled for the East Range Site.
- The modeling should compare health risk of a Super Critical Pulverized Coal Plant in the same location as the IGCC facility in order to assess the actual differences in adverse air quality and health impacts.
- The company should also model other forms of power production including alternative energy sources.
- Emissions of PM<sub>2.5</sub> should be evaluated. What are the average and maximum emissions of PM 2.5 from MEP I/II? Provide data for both the East and West Range sites.

## **Additional Comments from Members of the Citizens Advisory Task Force**

### ***Cumulative Impacts***

The Joint Permit Application is incomplete in that it does not address the cumulative environmental and socio-economic impacts related to the planned MSI direct reduction steel mill scheduled to be built just north of the proposed West Range Site.

Cumulative impact analysis should only consider projects that already have the necessary permits to proceed with the construction of the facility.

### ***ZLD***

Section 1.8.2.3 of the Environmental Supplement (Page I-196) quantifies the amounts of solids requiring disposal from the proposed East Range cooling tower blowdown ZLD system. The amount of solids requiring disposal is listed at 109 tons/day at peak flows and 73 tons/day annual average. There is no comparison to a similar system on the West Range Site. The company should address the following questions.

1. Quantify the maximum and average amounts of solids discharged to Holman Lake and Canisteo Pit in the absence of a ZLD system on the West Site.
2. Quantify the maximum and average amounts of solids requiring disposal with a ZLD system for cooling tower blowdown at the West Range Site.
3. Address appropriate disposal of these solids, and where this landfill would be located.
4. Address any potential environmental impact from this landfill.

Section 1.6.6.3.2 of the Environmental supplement (Page I-141 ) states that cooling tower blowdown sludge from the proposed East Range ZLD system is “expected to be non-hazardous and will be tested to confirm such condition.” The company should address the following questions:

1. How will this testing be performed, and how will the dry cake be stored prior to transport offsite?
2. How will storage containment measures and offsite transport be accomplished or change if the materials tested are found to be hazardous?

Explain how the addition of Zero Liquid Discharge on the cooling tower blowdown at the West Site would affect the availability of process water with regard to total water use needs.

### ***Wabash River Studies***

Section 1.3.3 Environmental Supplement (Page I-24) refers to improvements upon the Wabash River plant. The paragraph describes DOE funded studies of potential performance and technological upgrades but does not list the studies referenced. The company should:

1. Give citations of the DOE referenced studies.
2. Describe the performance upgrades that Wabash River required to meet discharge permit criteria for selenium, arsenic, and cyanide.
3. Submit data from Wabash River proving subsequent ability of that plant to meet these discharge permit limits.

### ***Wetland Impacts***

Section 2.5.2.1 of the Environmental Supplement (Pages I-27 and I-61) describes high groundwater levels in the soils in the vicinity of the West Range Site footprint, and states that the site may require permanent water table control measures. Given that over 300 acres of wetland exist on the West Range Site and adjacent utility corridors the company should:

1. Provide details on the acres and types of wetlands that will be affected.
2. Provide detail on how extensive these water table control measures would be, and how such measures would be accomplished.
3. Describe in detail how loss of wetlands will be mitigated.

### ***Water Impacts***

The EIS should indicate how, when, and where will the level of mercury in the Swan River watershed be measured.

Is there general agreement that the benefit to the State relative to the draw down of the Hill-Annex State Park is significant? If so, has this benefit been documented and quantified in terms of cost, tourism potential, etc?

By what level is the concentration of mineral constituents expected to be reduced, if any, in the CMP? Over what range of elevation will the pit water be maintained for both safety and water quality considerations?

Section 3.4.4 p III-117....*There is the potential to impact municipal water supply wells within the cities of Marble and Calumet as a result of significantly reducing the water levels in the HAMP.*

- The company should provide details of how such impacts will be prevented and at what reduction of water levels is it possible that this will occur. If this situation does occur, how will the company and municipalities be affected and deal with this situation?
- In this situation, how do such water level reductions or even lesser reductions of water levels affect Coleraine and Bovey water supplies as these wells are not nearly as deep, and may receive recharge from more superficial layers above the ore body?
- What impact might the potential need for permanent groundwater table control have upon the West Range Site?

### ***Decommissioning***

Plans for either site allow for the operation of up to two generating units over the life of the project. What is the expected life of the project and are there any decommissioning issues associated with eventual shutdown that should be addressed up front? If so, what are they and would they possibly vary by site?

### ***HVTLs***

The document mentions starting at 230kv and changing to 345 later on to minimize capital costs and impacts. This will not be true if the extra autotransformers will add to the cost of the project over installing one set of 345kv transformers at the outset.

### ***Prime Farmland Impacts***

There are some small farms in the region which are not mentioned in the Environmental Supplement, the Environmental Supplement should be amended to include all known farms in the area.

### ***Mercury Removal***

Why has the company only committed to a 90% mercury removal when the Eastman process has demonstrated a 95% removal efficacy?

### ***Certificate of Need***

I am concerned about the waiver from Certification of Need (Environmental Supplement Section 1.2.4.1). While I realize that this waiver is authorized by legislation, questions remain about the actual "Need" for this addition to the overall power grid, particularly since the power generated is not slated for consumption within the TTRA. The waiver notwithstanding, I think a thorough purpose and need section needs to be in the final EIS. This would then also address the additional impacts for HVTL from the POI to end users (Presumably the Metro area).

### ***Recreation Impacts***

What does it mean that access to the CMP will be restricted (closed?) and what impact will this have on the local residents? What are the safety, security, and operational reasons that will require this and how will non-authorized access then be prevented and maintained?

Is there a net recreational/tourism impact, positive or negative, on the West Range Site due to the restricting of the CMP and to the upgrades to the Hill-Annex Park?

### ***Partial Exemption for the proposed pipeline route permit***

On what basis is the request for a partial exemption from the requirement of a detailed environmental analysis for all proposed pipeline routes on the West Range Site justified?

### ***Contracts***

When are binding contracts between the proposed consortium members expected and could this alter the contents of this document in terms of the environmental impact assessment and projections?

## **Comments on Task 2**

### ***What site or route specific impacts and issues of local concern should be assessed in the EIS?***

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#### ***Section 2.1: Description of the Proposed Action***

The EIS needs to delineate the details behind the NPV of operating cost differences between the East Range and West Range sites.

#### ***Section 2.1.2.1: Resource Requirements (Inputs): Feedstock and Flux Requirements***

Regarding output as a function of fuel type, table 3.1-2 has a number of NA's in various fields MW Output for PRB coal blends and Illinois No.6 Coal.

- The EIS needs to reflect the every case for every fuel so that emissions per kwhr and impact can be determined.

#### ***Section 2.1.3.5: Discharges, Wastes, and Products (Outputs): Marketable Products***

The EIS needs to reflect the correct summer / winter MW output so that emissions per MW can be determined.

The EIS needs to state where the MW are being measured and should be consistent with other tables shown in the EIS.

#### ***Section 3***

The EIS should focus on the impacts to an area that encompasses at least a 12 mile radius from the proposed sites. This includes impacts of a social and cultural nature.

#### ***Section 3.2.3: Scenic Resources & Section 3.3.5: Sensitive Receptors (Including Class I Areas)***

The statements of David Dill, which refute some of the concerns about air emissions impacts on the BWCAW should be included in the EIS.

There is a statement in the JPA the West site will have less impact on the BWCA since it is further away, however due to prevailing winds being from the west and south west, the West site may have a much more significant impact on the BWCA since emissions may travel in this direction more of the time. The EIS needs to provide wind direction as a function of time for each site and also by season in order to be able to determine exactly what the level of emissions are for each site and to be able to make an accurate comparison of the sites impact on areas like the BWCA.

#### ***Section 3.4.6: Potential Formations for Geologic Sequestration of CO<sub>2</sub>***

The EIS needs to address how carbon capture will be accomplished at this facility. The EIS should address the following questions:

- The EIS needs to provide the CO<sub>2</sub> emissions per kwhr at each POI and at the delivery point to Xcel from petroleum coke, bituminous coal and sub-bituminous coal.

- Excelsior Energy has claimed that carbon capture is viable option, yet how can this be if the system is yet to be engineered?
- If, as Excelsior Energy states, CO2 caps/limits are inevitable, why not plan to capture CO2 now?
- If a main advantage of IGCC technology is CO2 capture, why not plan to do this from the start?
- How much CO2 capture is possible?
- Given the geology of this region and inability to sequester CO2 in Minnesota, what are the details of a long term plan for CO2 sequestration?
- What is the expected decrease in capacity and efficiency of the plant fitted for carbon capture? If carbon capture is not cost efficient IGCC may not be the right technology for this project. Alternatively, if carbon capture *is* cost efficient it should be put in place from the start.
- Is there a difference between the East and West Sites regarding the viability of future carbon sequestration options and requirements? What impact does this anticipated requirement place on the project regardless of location?

### ***Section 3.5.2: Water Resources: Surface Water***

The Environmental Supplement (ES) mentions using other sources such as Colby Lake during periods of high flow. The EIS needs to provide details of when and how often these periods of high flow will occur and what other impacts will result. The EIS needs to provide details of exactly what other sources are going to be used and what the impacts will be to each source over time.

The ES details how the limit in statute for water in excess of 2 million gallons per day average was permitted under other legislation. However, the ES does not fully explain if there will be sufficient water for Phase I and Phase II to operate over the long term especially in dry years?

The EIS needs to provide in detail what the impact will be to the Canisteo Lake State Park and the Lake at Hill Annex over the life of the plant?

### ***Section 3.14.3: Utility Systems: Wastewater***

The EIS should identify alternatives to the proposed wastewater pipeline beneath Colby Lake to the Hoyt Lakes POTW.

*One alternative that the EIS should examine is the feasibility of an overhead wastewater system attached to an existing railroad trestle that is used by Minnesota Power for coal haulage to its existing plant. The overhead wastewater system could include a 'Safety containment' outer shell to protect the line in event of a line failure.*

***Section 3.16.3: Materials and Waste Management: Landfills***

Are suitable landfill sites identified and available in terms of non-marketable slag and hazardous wastes (e.g. mercury) for both sites as well as for blow-down salts for the East Range Site?

***Section 3.19: Light and Glare***

The EIS needs to address light pollution in detail in the Excelsior documents.

***Section 4.X.4: Corridor Specific Impacts***

The EIS must provide in detail:

- All impacts from all transmission lines required by this project.
- The impacts of additional lines from Blackberry to Riverton or Blackberry to Cohasset or if additional lines or upgrades will be required elsewhere.
- The number of acres used, miles of existing routes upgraded and miles of new transmission line route required to deliver the power from the POI to the load.

The EIS needs to clarify and explain the details of operating the HVTLs initially at 230 kV and then changing to 345 kV and list the impacts of making this change and how will it be done.

The EIS should determine the additional environmental impacts of additional losses from the extra set of transformers and other equipment.

***Section 4.5: Water Resources***

The EIS should determine how low water levels can drop before affecting the function and capacity of the pump stations and caisson intake.

Exposing land bridges would provide a smaller volume of water into which the cooling tower blowdown would discharge, increasing concentrations of mercury, hardness, total dissolved solids, etc at a faster rate. The EIS should describe and graph how this would be anticipated to occur at such surface water levels, as well as the long term plan to deal with this situation.

The EIS should also discuss whether or not there are any other competing uses for the process water that may make this situation more likely.

The EIS should evaluate the elimination of cooling tower blow-down for the West Range Site as well as the East Range Site.

- Would this eliminate any uncertainty in the long-term impact of water discharge on the groundwater and surface water quality in and around the CMP and Swan River watershed

The EIS should evaluate the concentration of solids over time in Canisteo Mine Pit and overflow to Holman

The EIS should evaluate the concentration of solids in Canisteo Mine Pit at plants life-end and the viability of use of this water at this concentration level. (1.8.2.2.4 page I-190)

Outdoor coal storage areas will have water runoff from rainwater and regular hosing/watering. Studies on a Wabash River coal plant in Lafayette, Indiana (not the demonstration plant) demonstrate that leachate from coal piles contain sufficient contaminants to be of concern.

The West Range Site has ground water flow southwest to Canisteo Lake and north into wetland. There is also evidence of a hydrological connection between the CMP and Bovey/Coleraine drinking water aquifers. (See Section 2.5.2.3.1 Environmental Supplement). The EIS should evaluate the potential and level of contamination of leachate from the coal storage areas contaminating groundwater in the area.

#### ***Section 4.14.3: Utility Systems: Wastewater***

The EIS should address whether or not the existing publicly owned wastewater treatment capacity is sufficient to meet the needs of the proposed facility during both the construction and operational phases of the project. The EIS should indicate whether any upgrades and/or improvements will be necessary to handle the increased demands on these systems.

The EIS should describe the construction storm water practices that will be employed by the company.

The EIS should describe the impact that the project might have on high ground water levels on the West Range site (7.6.1. page 444)

#### ***Section 4.16: Materials and Waste Management***

The EIS needs to describe in detail how Mesaba plans to deal with the variations in ash, solid waste and hazardous waste that will result from varying the fuel and what any environmental impacts will be to the air, water or land.

#### ***Section 4.17: Safety and Health***

The EIS should describe the specific increase in health risk for people in nearby communities as well as individuals with co-morbidities and the elderly.

The EIS should address health impacts/risk for Native American elders with regard to the senior housing facility and interpretive center planned just north of Hwy 169 near the Scenic Highway.

The EIS should quantify the phrase “somewhat lower and more concentrated” as it pertains to the companies’ assessment of risk in the area around the facility, and how this risk increases for nearby residences and municipalities.

The EIS should describe the aesthetic improvement for both the stack and the emissions plume, and contrast this with the increase in adverse local air quality and health impacts.

The EIS should determine the confidence level that the environmental data presented represents the worst case operating scenario in terms of emissions, esp. given the status of the generation and control technology.

The EIS should determine the probability that FSQ will become a reality and the impact if this does not become reality on the overall project.

The EIS should address where and how additional health risk modeling will be completed relative to the allowable MPCA hazard risk assessment.

The EIS should evaluate the emissions of PM<sub>2.5</sub>.

With regards to morbidity related to particulate matter the EIS should:

- Provide the range of expected morbidities in a given year and adjust for seasonal variation.
- Give the expected number and range of clinic or urgent care visits and factor this into project costs both to the State and to local health care facilities and health insurance plans such as Itasca Medical Care (IM Care).
- Explain the apparent discrepancy between low numbers of minor respiratory illness, significant number of minor restricted activity days, and the number of lost work days.
- Describe the cost of these 18,000 work loss days to the average family affected, as well as the affect on employers needing to cover for sick workers.

With regards to secondary formation of particulate matter the EIS should:

- Address air quality modeling and adverse health consequences, both local and regional, with regard to secondary particulates.
- Provide similar analysis of secondary particulate matter health impacts for the general population, individuals with co-morbidities, and the elderly.

Regarding the formation of ground level ozone and smog the EIS should address the following:

- Estimate the increase in risk for developing childhood asthma
- Estimate risk attributable to ozone exposure for people with co-morbidities including children, individuals with lung disease, and the elderly. Provide details on average risk as well as risk on hot sunny days.
- Estimate the health risk for healthy individuals and children exercising outdoors on hot sunny days.

Regarding the phase I mercury impact zone, encompassing 720 lakes in which 487,000 fish are harvested. The EIS should:

- Provide a clear detailed analysis of how lakes in this impact zone will be affected by additional mercury deposition.
- Provide details and analysis of this plants mercury speciation. Clearly chart/graph the local lake impact over time given emissions of elemental mercury, methyl-mercury, and secondary methylation of elemental mercury.
- Provide information regarding which of these 720 lakes have been tested and how many have fish consumption advisories for mercury.
- Provide details of health risk analysis for women of childbearing age how live in this mercury impact zone.

The EIS should estimate the public's adverse health risk given increasing mercury concentrations over time with respect to MEP I & II.

The EIS needs to delineate the expected emissions of Vanadium, Vanadium Oxides and other toxic metals and oxides from burning petroleum coke at the plant. What are the health impacts from these metals?

The EIS should estimate the adverse health impact of fugitive particulates from incoming or exiting rail cars.

***Section 5.2: Summary of Environmental Consequences: Potential Cumulative Impacts***

The EIS should address the cumulative environmental and socio-economic impacts related to the planned MSI direct reduction steel mill scheduled to be built just north of the proposed West Range Site.