

**A View From The Ground:
Alternative Routes & Least Environmental
Cost Considerations
for the
Proposed Chisago Electric Transmission
Line Project**

A Report to the
Minnesota Department of Commerce
by the
Advisory Task Force
March 2007

**In the Matter of Route Permit and Certificate of Need Applications for a 115/161 kV
Transmission Line Between the Chisago County Substation and the St. Croix River as
proposed by Xcel Energy and Dairyland Power.**

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I. INTRODUCTION

A. CHARGE

In the Public Utilities Commission Order "accepting route permit application as complete, authorizing selection of Public Advisor, and combining environmental review and public hearing with Certificate of Need application," dated February 12, 2007, the Commission authorized "the Department of Energy Facilities Permitting staff to establish an advisory task force and develop a proposed structure for the task force."

The Department developed a candidate application form and presented the proposed structure and charge for the advisory task force at a Public Meeting in Lindstrom, Minnesota on February 27, 2007. A six (6) day deadline for submitting applications for membership on the task force was announced. Predictably, the short time frame ruled out the possibility of appointments from most affected governments because they do not meet frequently enough to respond to such an unreasonable deadline. According to the Project Manager, only one of the nine affected local governments responded. One affected local government, Chisago City, was not notified of either the applications or the task force opportunity, yet has since become involved in the process.

Subsequently, representatives from two affected cities and several other citizens did submit candidate applications to the Public Advisor by the March 5, 2007 cut off. The Department declined task force member requests and a request from the City of Lindstrom to extend the deadline for submission of task force applications and on March 9 declined to establish a formal advisory task force, citing Minnesota Statute 218E.08, supd 1:

The Commission authorization to establish a task force was then replaced by Commerce with an informal advisory task force process led by the Project Manager. The advisory task force had a membership of sixteen (16) representatives and met three times as a group to discuss scoping, alternate route designations and environmental and safety issues that should be addressed in the Environmental Assessment (EA). The advisory group met March 19, 23 and 26 at the Lindstrom City Hall and individual 'homework' assignments were completed by members between meetings.

The advisory task force included eight staff or elected official representatives from Chisago City, the City of Lindstrom, Center City, Shafer Township and Chisago County. The advisory group also included at least one representative of East Central RDC, Chisago Lakes School District, Concerned River Valley Citizens and St. Croix Scenic Coalition. Depending on how you count, four or five listed members of the advisory task force were citizens who represented themselves. Additionally, another eight or ten community leaders attended the meetings, participated in discussions and made recommendations to the group. The advisory task force was given only nine work days within which to initiate its work at the first meeting, draft and review recommendations and submit its recommendations to the Project Manager.

The impossibly rushed participation schedule was presented to affected local governments as a *fait accompli* and this has led Chisago community leaders to conclude the spirit and intent of the Power Plant Siting Act to "provide for broad spectrum citizen participation as a principle of operation" was not intended in the above described process. To this point, agencies entrusted with protecting a fair public process have failed themselves...and the public. The City

of Lindstrom has filed a Motion for Extension of Task Force and, in the alternative, Certification to the Commission. We hope for a late rally that will overcome the initial failures of process

The public, in this case represented by advisory task force members, did participate in good faith to conclude prescribed work on time and bring forward recommendations. They represent a public perspective of what should be the overriding 'charge' directed to all parties to protect the public interest.

The Chisago Advisory Task Force respectfully submits the following recommendations for your consideration.

B. DELIBERATIVE PROCESS

Discussions during meetings of the task force were informal and consensus driven. The Project Manager and a representative of Xcel Energy were present at meetings and willing to answer questions from members. Task force members and visitors quickly got to the point on significant environmental and safety issues associated with the project design and proposed route. Health and safety concerns were strongly expressed, pointing out that overhead placement proposed by the applicants through Lindstrom and Center City would result in too big a line in too small a corridor that includes downtown areas and passes directly adjacent to a school. The task force determined that undergrounding is the only reasonable and feasible alternative through this particular route segment. The task force discussed criteria for addressing additional aesthetic and environmental concerns and determined a suggested scope for alternative routes. It looked particularly and carefully at routing improvements to make crossings of the St. Croix River safer and less visually intrusive. It was also determined that time constraints indicated the task force would limit the number and specificity of recommendations it could responsibly put forward by the March 30 deadline. The time and process has unduly restricted input and participation.

II: FINDINGS AND ISSUES

A. FINDINGS OF THE TASK FORCE

1. The task force finds that applicants' characterization of need is beyond the capability of members to address in the limited time allotted. Members do recognize that a major decision on whether to permit or not permit a transmission line as proposed or an alternative routing must be based on an accurate determination of need. If need is determined, then project design and routing must adequately address local health and safety concerns and must fairly balance local economic impacts against any quantifiable benefits to regional load serving and system reliability. Local cultural, historic, tourism and environmental impacts are financially quantified and must be made a part of the cost equation used as a basis for a final decision. Typically, utility direct costs associated with a project do not capture local costs to subsidize the project. The 'cheapest' utility option may instead be the most expensive option when outright public costs and public values for lost or damaged assets are included as costs of a project.

2. The task force finds that cost data presented for the proposed route does not include certain specific costs that the task force feels will be inevitable costs. One such cost is undergrounding through Lindstrom and Center City where the proposed corridor is just too narrow for an overhead 115kV line. In addition, the present alignment of the 69kV line between the Lindstrom Substation and Center City is already too close to residences, businesses and the middle school, and this unacceptable condition would be exacerbated by the proposed project. Health and safety concerns for this larger line can not be addressed with an above ground design in this location. Discussion of undergrounding cost can not and must not be limited to utility costs -- direct costs and health and safety costs accruing to communities and households must be part of the cost/benefit equation.

3. The task force finds that the St. Croix River corridor is an important ecological characteristic of Chisago County. It provides important recreational opportunities, provides environmental services, and contributes to the life-styles and economies of the area. The St. Croix corridor is also fragile and in danger of being damaged by any kind of crossing that creates intrusive impacts to the scenic and recreational values that caused the river to be incorporated under the federal Wild and Scenic Rivers Act. The Wild and Scenic Rivers Act strongly articulates avoidance of the St. Croix River and requires extreme caution when proposing any alteration of the river and its valley.

4. The task force finds that applicants' statement to advocate for undergrounding in Taylors Falls and down the St. Croix River bluff face does not sufficiently capture the absolute necessity of undergrounding through this stunning and federally recognized zone. The bluff face is in direct line of view from the federally designated St. Croix Wild and Scenic Riverway and from the Minnesota designated St. Croix Scenic Byway which passes beneath the bluff face on County 16. Undergrounding down the bluff face is essential. If feasibility for undergrounding in this location is in question, an alternative route that incorporates another St. Croix River crossing should be mandatory.

5. The task force finds that the proposed transmission line route misses an opportunity to consider alternative pathways and river crossings that better fit the public interest. Other alignments do provide for better environmental solutions and project integration; and, we think it likely they also provide better regional reliability and regional load serving solutions. Historical MEQB, PSCW and NPS perspectives entered in the prior record reinforce the need to analyze alternative routes. A panoply of location specific St. Croix River crossing studies prepared by third party engineers and agency staffs in both Minnesota and Wisconsin also support alternative route consideration. Additionally, utility models prepared in part by the applicants demonstrate equivalent or improved load and reliability improvements using alternative routes.

6. The task force further finds that the five findings above argue in favor of expanding the scope of alternative routes, which is hereby strongly recommended by the task force.

B. GUIDE FOR ASSESSING ALTERNATIVES

The task force began its deliberations by recognizing that if local load serving and local reliability were the goals being addressed in the current proposal, Chisago communities would not be facing a large transmission line. It is a matter of record that the line between Lindstrom and Taylors Falls is open, with no current flowing. Other options for a smaller, less intrusive local solution exist. The project proposed by the applicants' may be one way to serve local Minnesota loads and reliability but the lion's share of benefits from the proposed project are claimed to provide regional reliability and serve regional loads. Yet, local Minnesota communities are being asked to bear a disproportionate share of health and safety concerns and bear the greatest burden of environmental and scenic impacts. If the grid's system reliability was the goal, the project design would be configured to connect into the upgrades to the 161kV system in Wisconsin.

Historically, the Wisconsin Public Service Commission (PSCW) has studied nearly every configuration of transmission line passing from Minnesota into Wisconsin. The ample record of studies under Advance Plan 7, Advance Plan 8, WIREs and WRAO verifies that there are numerous routing alternatives that would meet Wisconsin's regional need and reliability into the future. These documents also point out the distinction of a system reliability need and a need for bulk power transfer capacity. The task force used these PSCW planning models, independent engineering perspectives from the earlier Chisago Project application and documents from Minnesota agencies, the National Park Service and from the applicants themselves to inform and provide a basis for task force recommendations.

Of all the PSCW Minnesota-to-Wisconsin routing options studied, the task force focused on two alignments in addition to the one proposed by the applicants. The first alternative route is from the Rock Creek Substation in Minnesota to Grantsburg, Wisconsin via the Highway 70 bridge crossing of the St. Croix River and, then to the Apple River Substation, which is the same project terminus proposed in the current application. The second alternative route would require less than a mile of transmission line in Minnesota to be reconducted in an existing overhead transmission corridor at the NSP Allen S. King power plant at Bayport, Minnesota. This crossing of the St. Croix River could be accomplished without any appreciable change to the towers or to the 'look' of the transmission alignment from the Minnesota side of the river into Wisconsin. Second and third components of this alternative option may require changes at Red Rock to Crystal Cave from 115kV to 161kV and building a second 161kV transmission line between Pine Lake and the Apple River Substation, again using the same terminus proposed in the current application. The task force asks the question whether the alternative route configurations (in addition to providing better health, safety and environmental solutions) also provide better transfer capacities, better regional reliability and better regional load serving than the project proposed by the applicants. The applicants should bear the burden of proving that the proposed project exceeds the alternative route configurations discussed above in every measure.

One distinction the task force used to look at transmission line corridors is whether the line is proposed to be overhead or underground. In most circumstances, it is not necessary to make the distinction but when a corridor is too narrow or environmentally constrained; where federally designated, or if residences, businesses or schools are too close to a powerline right of way, the distinction is necessary. In the case of a too narrow corridor such as the Lindstrom and Center City route segments, the applicants propose to place the line overhead. Overhead placement should be prudently avoided. The alternative route favored by the task force in the

case of Lindstrom and Center City is to underground the line on the same alignment proposed by the applicants. This would prevent environmental or health and safety impacts from disqualifying the alignment. The Minnesota DNR has applied the same distinction between overhead and underground crossings of the St. Croix River. A change from underground to overhead is considered a new corridor.

Finally, the task force adopted the 'precautionary principle' and applied the two separate senses of the term to its evaluation of a route. Health and safety impacts that would be caused by routing a line too close to sensitive populations of individuals in schools, hospitals, nursing homes and day care centers would dictate that unless or until 'no harm' is conclusively proven, it is prudent to simply avoid placing a transmission line near them. The second sense of the precautionary principle is environmentally based and recognizes the connection between human communities and their natural surroundings. The effort to prevent harm to sensitive and special environmental features requires an applicant to assume the burden of proof for assuring harm to important assets can be prevented.

The precautionary principle thus ties in to environmental law and the rights of the public to defend protectable resources from material harm under MERA and MEPA. In the case of a potential for material harm to a protectable resource, it also requires the project applicants (not just an advisory task force or the public) to prove that no feasible alternatives exist that could be utilized to protect the resource. The St. Croix River is a protectable resource and universally recognized as a public environmental treasure. The task force applied the precautionary principle in recommending two alternative crossings of the river. Each alternative route would be more prudent than the proposed route from a perspective of protecting river resources and accomplishing river crossings with less potential for harm.

It is important to point out that aesthetic concerns are often dismissed as peripheral, subjective and unimportant. But in the St. Croix River valley where tourism-based business is the backbone of the community, aesthetics means livelihood. And when people come from neighborhoods where power distribution lines are underground and unseen, a 'scenic view' can not be defended as pylons, wires and clear-cut rights-of-way. Such intrusions are simply visual pollution -- litter that does not blow away. And when power transmission lines are prominent in a photograph, the value of the backdrop is destroyed and the reasons for visitors to return are taken away. Cities along the Highway 8 corridor provide one of the two most important gateway approaches to the National Riverway and the descent into Taylors Falls ranks as one of Minnesota's iconic scenic panoramas, rivaled only by vistas along the North Shore Drive. Broad ecological and aesthetic resources must be ascribed a public value that supercedes narrow financial considerations. Once significant material harm has taken place in an ecological or aesthetic setting, it can not be replaced.

III: RECOMMENDATIONS

The Chisago Advisory Task Force makes three recommendations. They are:

FIRST, the Task Force recommends that the following four alternative routes be accepted for consideration in the EA and the permit hearings. Each of the four alternatives have in common an expectation that supporting distribution systems in Chisago County, Minnesota and Polk County, Wisconsin will be undertaken. The task force further recommends each key assessment factor incorporated in the EA for the proposed project also be undertaken for each alternative transmission route.

1. Alternative routing underground between the Lindstrom Substation and Center City, with the underground segment terminating in Center City at an existing power pole location at GPS coordinate N45°23.438', W092°48.809' and itemized cost estimate;

2. Rock Creek Substation in Minnesota to Grantsburg, Wisconsin, then (depending on engineering value decisions) either to the Apple River Substation near Amery, or to the Washco Substation near Shell Lake, Wisconsin;

3. King Plant Substation at Bayport, Minnesota, to the Pine Lake Substation near Baldwin, Wisconsin, and the Red Rock Substation in Newport, Minnesota, to the Crystal Cave Substation near Martel, Wisconsin, and from Pine Lake Substation to the Apple River Substation near Amery, WI (the new Stillwater bridge would be an alternative route segment for the King crossing); and,

4. Hugo alternative. The Hugo Area Long-Range Electric Delivery System Study set out a series of upgrades to bolster the distribution system in the area, particularly the 69kV facilities. There were 8 alternatives proposed using four variations of basic configurations in Phase I, and a 115kV Base Plan was proposed in Phase II. The study noted that "A high voltage line from Chisago County to Wisconsin has no immediate benefit for this study area." The extent of upgrades in this area must be addressed, and the task force recommends that those upgrades not made in association with this study be completed. Further, in light of applicants' claimed reliability needs, the 161kV system upgrades in Wisconsin must be reviewed.

Physical designs, full-cost proposals and Environmental Assessments are needed for all alternative routes.

SECOND, the Task Force recommends that comparable cost data be developed for all alternatives, including the original proposal, and that those data go beyond narrow financial projections to include the cost of environmental degradation and its effect on the natural, social, economic and aesthetic dimensions of the surrounding area.

THIRD, the Task Force recommends that when future route advisory task forces are established to consider scoping and routing alternatives that those task forces be given adequate time and adequate resources to assist in the inquiry.

A: RATIONALE AND ALTERNATIVE ROUTES TO BE CONSIDERED

The advisory task force recommends the following four Minnesota alternative routings and crossings of the Wisconsin/Minnesota border to be accepted for consideration in the EA and the permit hearings.

The alternatives and rationale are listed by location of state border crossing starting with the southernmost crossing.

1. **King crossing.** An upgrade to 161 kV of the existing 115 kV transmission line from the King Plant Substation in Bayport, MN, crossing the St. Croix River either at the King Plant or associated with the proposed Stillwater Bridge, to the Pine Lake Substation near Baldwin, WI; a new 161 kV line from the Pine Lake Substation to the Apple River Substation, north of Amery, WI; and an upgrade of the 115 kV line from the Red Rock Substation in Newport, MN to the Crystal Cave Substation near Martell, WI.

1. Existing transmission lines cross the St. Croix River at both locations
2. Lines have the potential to use existing rights of way
3. The King Plant Substation is a strong power source
4. Crossing is located in a developed industrial area
5. Potential to minimize adverse environmental impacts
6. Potential to be included with the St. Croix bridge at Stillwater.
7. This is shown as a viable alternative in the Wisconsin Advance Plan 7, Technical Support Document D23w.

2. **Taylor's Falls crossing.** Uses the proposed project alignment between the Chisago County Substation and a new Lawrence Creek Substation, then proceeding to Taylor's Falls. The alternative routing is for an underground segment between the Lindstrom Substation and Center City, with the underground segment terminating in Center City at an existing power pole location at GPS coordinate N45°23.438', W092°48.809'. This alternative incorporates the applicant-proposed undergrounding in Taylor's Falls and down the St. Croix River bluff face as mandatory.

3. **Taylor's Falls crossing.** 4. Hugo alternative. The Hugo Area Long-Range Electric Delivery System Study set out a series of upgrades to bolster the distribution system in the area, particularly the 69kV facilities. There were 8 alternatives proposed using four variations of basic configurations in Phase I, and a 115kV Base Plan was proposed in Phase II. The study noted that "A high voltage line from Chisago County to Wisconsin has no immediate benefit for this study area." The extent of upgrades in this area must be addressed, and the task force recommends that those upgrades not made in association with this study be completed. Further, in light of applicants' claimed reliability needs, the 161kV system upgrades in Wisconsin must be reviewed.

4. **Rock Creek crossing.** A new 161 kV or 230 kV transmission line from the Rock Creek Substation, MN, crossing the St. Croix River near the Highway 70 bridge to Grantsburg WI. In Wisconsin, the line could connect to either the Apple River Substation, near Amery, WI, or the Washco Substation, near Shell Lake, WI.

1. Existing bridge across the St. Croix River was built to carry 161 kV conductors.
2. An existing 69 kV line is routed under the river in this corridor.
3. This is shown as a viable alternative in the Wisconsin Advance Plan 7, Technical Support Document D23w.
4. Line has the potential to share right of way with TH 70
5. Line has the potential to connect 161 kV with the existing 161 kV system either at Apple River or Washco.
6. Line has the potential to share right of way for the majority of its length to Apple River.

216E.02 SITING AUTHORITY.

Subdivision 1. **Policy.** The legislature hereby declares it to be the policy of the state to locate large electric power facilities in an orderly manner compatible with environmental preservation and the efficient use of resources. In accordance with this policy the commission shall choose locations that minimize adverse human and environmental impact while insuring continuing electric power system reliability and integrity and insuring that electric energy needs are met and fulfilled in an orderly and timely fashion.

Subdivision 1. **Advisory task force.** The commission may appoint one or more advisory task forces to assist it in carrying out its duties. Task forces appointed to evaluate sites or routes considered for designation shall be comprised of as many persons as may be designated by the commission, but at least one representative from each of the following: Regional development commissions, counties and municipal corporations and one town board member from each county in which a site or route is proposed to be located. No officer, agent, or employee of a utility shall serve on an advisory task force. Reimbursement for expenses incurred shall be made pursuant to the rules governing state employees. The task forces expire as provided in section 15.059, subdivision 6 . At the time the task force is appointed, the commission shall specify the charge to the task force. The task force shall expire upon completion of its charge, upon designation by the commission of alternative sites or routes to be included in the environmental impact statement, or upon the specific date identified by the commission in the charge, whichever occurs first.