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March 6, 2001

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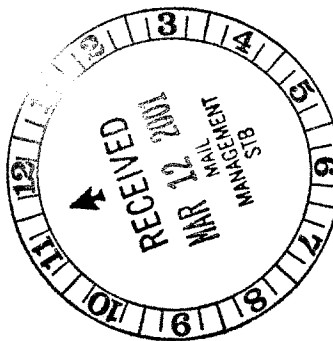
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Victoria Rutson
Environmental Project Manager
Office of the Secretary
Case Control Unit
Surface Transportation Board
1925 K Street, N.W.
Washington, D.C. 20423-0001

**RE: STB Finance Docket No. 33407
Comments of Minnesotans for an Energy-Efficient Economy on DEIS**

Dear Ms. Rutson:

Enclosed for filing in connection with the above-referenced docket, please find the original and ten (10) copies of the Comments of Minnesotans for an Energy-Efficient Economy (ME3). For your reference, Michael Noble, Executive Director of ME3, filed comments at the earlier scoping stage for this proceeding, and is listed as a Party of Record.

Thank you for your attention to this matter. If you have any questions, please do not hesitate to contact me.

Sincerely,

O'NEILL, GRILLS & O'NEILL, P.L.L.P.

Elizabeth I. Goodpaster
Attorney for Minnesotans for an Energy-Efficient Economy

Cc: Michael Noble

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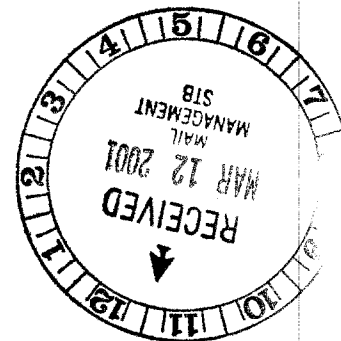
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SURFACE TRANSPORTATION BOARD
SECTION OF ENVIRONMENTAL ANALYSIS

Finance Docket No. 33407

Dakota, Minnesota and Eastern Railroad Corporation
Powder River Basin Expansion Project
Draft Environmental Impact Statement



COMMENTS OF MINNESOTANS FOR AN ENERGY-EFFICIENT ECONOMY

Minnesotans for an Energy-Efficient Economy (ME3) is a coalition of Minnesota environmental and economic development nonprofit organizations and is a party to the above-referenced docket. On July 10, 1998, ME3 submitted comments at the Scoping Stage of this proceeding. (Copy attached hereto as Exhibit A). ME3 submits the following comments on the Draft Environmental Impact Statement (DEIS) that can be briefly summarized as follows: 1) the DEIS fails to adequately consider the adverse air emissions that result from the DM&E project due to the significantly increased availability and combustion of Powder River Basin (PRB) coal by Midwest generators; and 2) the DEIS fails to analyze the reasonable alternative of an upgrade to the existing DM&E line without an expansion of the line to reach Wyoming coal mines. ME3 concludes that the DEIS is inadequate in these respects, and the Final Environmental Impact Statement must rectify these deficiencies, with the understanding that other parties are submitting comments on additional aspects of the DEIS which fail to satisfy National Environmental Policy Act (NEPA) standards.

I. THE DEIS FAILS TO ANALYZE AIR EMISSIONS RESULTING FROM INCREASED AVAILABILITY AND COMBUSTION OF PRB COAL.

The DEIS does not address the air quality impacts associated with the increased availability and utilization of PRB coal, despite the fact that the Surface Transportation Board's Section of Environmental Analysis ("SEA") identified the need to analyze such impacts in its March 5, 1999, Final Scope of Study for the Environmental Impact Statement ("Final Scope"). Instead, the SEA appears to merely accept the project proposer's view that only beneficial environmental impacts result from flooding Midwest markets with PRB coal to be burned at electric generating stations. See, e.g., DEIS p. 1-12 to 1-15; 6-6 to 6-8; ES-23; and see, DM&E Application For Construction And Operation Authority ("Application"), Volume 1, §1150.2(a) ("DM&E believes this project offers tremendous public benefits including . . . helping to develop environmentally preferable energy sources which will significantly reduce SO₂ emissions . . .") and §1150.4(c)(III)(E) ("100 million tons of PRB coal that DM&E is projected eventually to carry each year will displace approximately 40 million tons of higher-sulphur coal, resulting in a net reduction in SO₂ emissions of 340,000 tons."). The SEA has erred by substituting the analysis to which it committed in the Final Scope with the self-serving statements supplied by DM&E, and by limiting substantive analysis of air quality impacts to those created by actual construction activities of the project or the operation of the pollutant-emitting trains. See, DEIS, p. 6-19 (summary of SEA approach to air quality analysis). Moreover, and as discussed further below, a hard look reveals that the project proposer's accolades for the environmental benefits of increased use of PRB coal do not measure up against regulatory and economic reality.

A. The Project Scope Requires Independent Analysis of Air Quality Impacts from the Combustion of PRB Coal.

The NEPA scoping process determines the range of actions, alternatives, and impacts to be considered in an EIS, and the significant issues to be analyzed “in depth” in the EIS. Council on Environmental Quality Regulations (“C.E.Q. Reg.”), 40 C.F.R. §§1508.25 and 1501.7. NEPA regulations require the lead federal agency to prepare its DEIS in accordance with the scope decided upon in the scoping process. CEQ Reg. 40 C.F.R. §1502.9(a). The Final Scope states that the DEIS will “[e]valuate the potential air quality impacts associated with the increased availability and utilization of PRB coal.” *Id.* at 23. The SEA determined that the issue of air quality impacts associated with electric generators’ increased use of PRB coal is distinct from the air quality impacts which result from construction of the proposed rail lines and operation of the trains. *Id.* The SEA accepted parties’ recommendations that because DM&E justifies the need for its project by reference to electric generating companies’ demand for PRB coal, that the air quality impacts that result from electric generating companies’ use of the transported coal must be examined in depth. The DEIS, however, fails even to attempt this necessary analysis. The sections of the DEIS discussing air impacts do not analyze the intended use of the PRB Coal which DM&E wishes to transport. Only in passing, and as a premise for its review, does the DEIS contain conclusory references to the alleged *benefits* of the increased use and availability of PRB Coal. *See*, DEIS p. 1-6, 1-15, 1-20, 6-6, 6-8.

The environmental impacts of the increased availability and utilization of coal are direct impacts of the DM&E proposed project. Indeed, the chief purpose of the project is to increase the availability and utilization of PRB coal by Midwest electric generating companies. Unless the final EIS examines the associated environmental impacts of fulfilling the project’s articulated purpose, it will not meet the requirements of NEPA.

B. The SEA Is Required To Analyze The Adverse Environmental Impacts Of Increased Coal Utilization Whether The Impacts Are Considered Direct Or Indirect.

ME3 believes that the STB will agree that in light of the proposed project's stated purpose and the STB's December 9, 1998, initial decision that the DM&E Application satisfies the transportation-related requirements of 49 U.S.C. 10901, that the environmental impacts of increased availability and utilization of coal are direct impacts of the proposed project because of the target market for the PRB coal. NEPA, however, requires rigorous analysis of such environmental impacts even if the STB considers them indirect consequences of the project. CEQ Reg. 40 C.F.R. §1502.16 (a)(b); CEQ Reg. §1508.8 ("Indirect" effects are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable.). See, Sierra Club v. Marsh, 714 F.Supp. 539, 584-585 (D.Me. 1989) (enjoining project construction for lack of adequate consideration of, *inter alia*, secondary environmental impacts of project).

The DEIS professes that it contains an analysis of the direct and indirect impacts of the DM&E project, yet the DEIS does not analyze the effects on the environment of increased demand for and consumption of PRB coal. See, DEIS, p. 1-5 ("This EIS is intended to disclose the potential direct, indirect, off-site, and cumulative impact to the environment as a result of the proposed project and project alternatives."). Electric generators' demand for burning PRB coal has been touted by the project proposer as a justification for the project. See, e.g., DM&E Application, Volume 1, §1150.2(a). The alleged demand for PRB coal was also used by the STB to justify its transportation-related approval of the DM&E project pursuant to 49 U.S.C. §10901. DEIS p. A-60 to A-75. The impacts of electric generators' increased consumption of PRB coal

are not just reasonably foreseeable, but are inextricably linked to the project. The final EIS must include an analysis of these impacts.

C. To Cure the DEIS' Failure to Analyze the Impacts of a Dramatic Increase in Coal Consumption, the SEA Must Conduct or Obtain Additional Analyses.

ME3 recommended during the scoping process for this docket that the SEA conduct an analysis of the air quality impacts associated with the increased use of PRB coal by Midwest electric generators. See, Exhibit A, ME3 Scoping Comments. ME3 pointed out that contrary to the project proposer's assumptions, the project is not likely to reduce sulfur dioxide pollution at all. To fulfill NEPA's mandate to thoroughly analyze the reasonably foreseeable environmental impacts of proposed actions which may significantly affect the environment, the SEA must complete an analysis, the scope of which is described herein, of the air quality impacts that result from a massive increase in the amount of coal made available and utilized as a result of the DM&E project. It is untenable to assume, as the DEIS appears to do, that lower-sulfur coal has only benefits on air quality. In truth, when viewed in terms of the regulatory framework for sulfur dioxide emissions, the DM&E Project is likely to have no beneficial effect on the nation's sulfur emissions other than to make it cheaper for electric generating companies to meet mandated caps. Moreover, the price signals and usage patterns presented by the increased availability and utilization of PRB coal are likely to have a corresponding adverse impact on the emissions of other air pollutants. These impacts must be analyzed in the final EIS.

1. *Sulfur Dioxide Emissions Are Unlikely To Decrease Because Of The DM&E Project, While Other Air Pollutants Are Likely To Increase.*

The Clean Air Act, as amended, caps sulfur dioxide emissions at a fixed level, and any "excess" emissions credits may be traded between owners of coal generating stations. Electric generating companies will continue to use the emissions trading system which enables some

plants to emit more than their allocated sulfur dioxide levels if they purchase credits from generating stations which beat their allocated sulfur dioxide levels. In other words, any sulfur dioxide reductions at particular generating stations are offset by increased sulfur dioxide emissions at other generating stations. The total amount of sulfur dioxide emissions from power plants in the U.S. is, therefore, determined by the overall cap specified in the Clean Air Act Amendments of 1990, and possible future environmental regulations, but not by the individual decisions of generators, or by the introduction of additional PRB coal.¹

In addition to the fact that DM&E's claims about sulfur dioxide emissions reductions are incorrect, the company and the DEIS entirely ignore the real air emissions impacts of the project: the likely increases in nitrogen oxides, carbon dioxide, and air toxics resulting from increased generation from coal. This increased amount of coal-fired power generation can result in three different, but related ways.² First, the utilization of the existing fleet of coal units could increase due to the availability and utilization of PRB coal. The average capacity factor for coal generators in the U.S. is 61% while the average equivalent availability factor is 82%.³ The second means by which PRB coal could cause pollution to increase is by deferring the retirement of older coal generators that would otherwise close or be repowered to burn cleaner fuel, such as natural gas. As coal generators age, and as they face tightening emissions standards, it is natural to expect some of the generators to be retired or repowered. A scenario with a massive influx of PRB coal, however, is likely to defer such retirements. And third, there is the possibility that the

¹ With all other factors being equal, the additional PRB coal is likely to decrease the number of added flue gas desulfurization systems retrofit to existing coal generators.

² ME3 was assisted on the economic and technical aspects of these Comments by special consultant to ME3, Bruce Biewald of Synapse Energy Economics, Inc., a highly respected firm out of Cambridge, Massachusetts. The *curriculum vitae* of Mr. Biewald is attached here to as Exhibit B.

³ North American Electric Reliability Council's Generating Availability Data System averages for the period 1995 to 1999.

availability of PRB coal will encourage the construction of new coal generating capacity. While most of the new power plant additions over the next few years are expected to be fueled by natural gas, there are some proposals for new coal generators. All three of these mechanisms should be thoroughly analyzed as part of a proper environmental impact statement for the proposed PRB Expansion Project.

Thus, contrary to DM&E's view that the project brings with it improved air quality in the electric generation industry, it is considerably more likely that the low-cost PRB coal will simply send market signals which increase total sales of coal, thereby increasing emissions of nitrogen oxides and particulates and of unregulated pollutants such as mercury and carbon dioxide. Such impacts of adding more than 100 million tons⁴ of PRB coal to U.S. markets cannot be simply overlooked in the DEIS. A proper environmental analysis would utilize available computer simulation models in order to understand these impacts of the DM&E project.

The DM&E project is premised upon the expectation that its delivered cost of coal to power plants will be low enough to compete with the delivered cost of Eastern coal. The cost has not been established, but it may be lower by as much as \$5 to \$10 per ton. Since this price differential will drive much of the rest of the analysis of other impacts, it is important to determine a reasonable estimate for the relative coal prices as delivered to power plants.⁵ This estimate should be developed using detailed cost data for the mining and transportation of the PRB coal.

⁴ DM&E anticipates delivery of 100 million tons of PRB coal over ten years. DEIS, p. A-59. This amount represents roughly ten percent of total US coal consumption. See, DEIS, p. 1-17.

⁵ The Federal Energy Regulatory Commission ("FERC") conducted an EIS for its major wholesale electricity market order, Order 888. The EIS concluded that relative fossil fuel prices were a major determinant of whether restructuring would have a negative effect on the environment. See, FERC Order 888 (V), April 24, 1996, 75 FR ¶61,080.

The prices of coal delivered to power plants will likely be affected by the project, even if they do not take delivery of the particular coal delivered from the Power River Basin Expansion Project. This occurs, because coal from different sources competes. The price impact at any specific generating station will depend upon the cost and availability of other sources of coal supply, and upon the demand for coal by geographic location. Even stations that burn exclusively Eastern coal may realize a decrease in fuel price due to the influence of competition from the new additional PRB coal.⁶ A model of coal market supply and demand should be applied in order to determine how the change in coal supply resulting from the DM&E project will influence coal markets generally, and coal prices in particular. Such a model could assess the extent to which the decreased cost of the additional PRB coal will result in changes to the price of coal to electric power plants.⁷

Once an appropriate coal market study has been completed, the SEA will have a basis on which to analyze the air emissions which will result from the DM&E project. The important air emissions from the electric power sector include sulfur dioxide, nitrogen oxides, carbon dioxide, particulates, and toxic metals such as mercury. Electric system simulation models typically include the capability to project quantities of air emissions by facility and for the whole system for any particular time period of interest. A full environmental analysis of DM&E's Project would include analysis of a range of air emissions. It would include nitrogen oxides on an annual and ozone season basis, long-run carbon dioxide emissions, fine particulates (less than 2.5 microns in diameter), as well as a full set of air toxics.

⁶ It is also worth noting that the relative prices of coal and gas can drive many decisions about plant retirement, retrofit, repowering, and new construction. Changes in coal markets of this magnitude will likely influence delivered prices for natural gas as well

⁷ By applying the electricity market simulation model, over a reasonably long study period (e.g., ten to twenty years), retirement and resource development decisions can also be analyzed.

In addition to estimating the quantities of air emissions, the analysis should include modeling and assessment of the impacts of each of those emissions. For example, the additional emissions of nitrogen oxides from Midwest power plants would result in additional transport of pollution to the Northeast, with the associated damages to human health. Such transport of pollution also makes it more difficult (or in some cases impossible) for downwind states to meet the EPA's ambient air quality standards. Similarly, the additional carbon dioxide emissions resulting from the additional PRB coal would contribute to climate change, and would make it more difficult for the U.S. to comply with any policy limiting greenhouse gas emissions. The health impacts of mercury deposition resulting from increased combustion of PRB coal is also a highly important factor which must be analyzed in the SEA's final EIS..

2. *Computer Simulation Models Which The SEA Needs To Conduct The Proper Analysis Of Air Impacts Are Readily Available.*

Computer simulation models have been applied in analyses of the electric power system for many decades. Models that are currently in common use include PROSYM, PROMOD, and GE-MAPS. These models (and many others) all simulate the dispatch of generating resources to meet customer loads over a particular study period. Many types of input data are required for the simulation modeling. All of the generating resources, existing and future, are represented in the model with data specified for capacity, forced and scheduled outage, efficiency (heat rate), variable O&M costs, and fuel costs. To the extent that capacity expansion decisions are analyzed, the fixed costs of constructing and operating the future resource options are included as well. Air emissions can be included in the model by specifying emission rates for generators, and these can be incorporated in the market dispatch based upon market prices for emission allowance of various pollutant types. Customer loads are typically represented by scaling hourly loads for a recent actual year upward to reflect forecast growth in customer demand for

electricity. The data for such models is generally available from standard public sources: capacity ratings and heat rates of existing units from Energy Information Administration data, emission rates from Environmental Protection Agency data, hourly loads from utility filings with FERC. In some cases, proprietary data sources can be used to supplement the public data.

One recent example of a study in which computer simulation modeling was used to analyze the environmental impacts of the electric power system is the February, 2001, report "Repowering the Midwest: The Clean Energy Development Plan for the Midwest." The analysis is available online at www.repowermidwest.org. The PROSYM model was used in this study, in order to simulate the dispatch of electric power stations in a ten state region for a reference case, representing business as usual practice, and a clean case in which energy efficiency and renewable generating resources are aggressively developed. This is just one example of many studies that examine the environmental impacts of major energy choices. To apply computer models of the electric power system in doing such studies is common practice.

II. THE "UPGRADE-ONLY" OPTION IS A REASONABLE ALTERNATIVE THAT MUST BE EXAMINED IN THE FINAL EIS.

Although the SEA examined the "No-Action Alternative" to the DM&E proposal, the SEA declined to examine the alternatives available to DM&E to upgrade its existing system. The SEA chose not to analyze an "upgrade only" option for three reasons: 1) the option would not satisfy a stated project purpose to create rail access to PRB coal; 2) DM&E represented that it does not have the revenue to accomplish an upgrade without the expansion component; and 3) the STB does not have jurisdiction over existing rail system upgrades. DEIS pp. 1-3, 2-8, 2-10 n. 6, 6-6, 6-8, A-52, A-105. The foregoing justifications are flawed. First, the SEA unjustifiably relies on DM&E's statement of the project's purpose, a statement which is perhaps designed to

restrict the analysis of certain reasonable alternatives. Second, the SEA misunderstands the mandate of NEPA that requires the SEA to explore and objectively evaluate all reasonable alternatives to the proposed action, including “reasonable alternatives not within the jurisdiction of the lead agency.” CEQ Reg. 40 C.F.R. §1502.14 (c).

A. DM&E’s Stated Project Purpose Is Self-Serving and Restrictive.

DM&E has stated its project purpose in unduly narrow terms, which statement precludes analysis of the reasonable “upgrade only” alternative. DM&E’s project purpose statement must be modified by the SEA to complete an adequate environmental analysis of the project. In its Application, DM&E described the purpose of the project as one which would create a third major rail carrier with access to PRB mines WITH new, lower cost routings for PRB shipments to Midwest utilities, AND to create a revenue source to improve DM&E’s existing inefficient and unsafe rail system. It is apparent, however, that the true purpose of the project is only the latter piece of DM&E’s stated purpose, that is, to create a presently lacking revenue source to improve DM&E’s existing rail system, lest it “cease to exist as a viable railroad.” See, DEIS Overview, pp. 1-3 to 1-4, and A-85. The evaluation of alternatives mandated by NEPA is to be an “evaluation of alternative means to accomplish the *general* goal of an action.” Simmons v. U.S. Army Corps of Engineers, 120 F.3d 664, 669 (7th Cir. (Ill.) 1997) (emphasis added). If the general, and perhaps more genuine, purpose of creating revenue for a struggling railroad were the departure point for NEPA environmental review of the proposed project, alternatives which could create alternative revenue sources to upgrade DM&E’s existing system would be considered.⁸

⁸ For example, \$3.5 billion in federal loans and loan guarantees are available through the Federal Railroad Rehabilitation and Improvement Financing Program for railroads to accomplish needed upgrades.

The judiciary has called the proposition that a federal agency must accept a project proposer's stated project purpose a "losing proposition." Simmons, 120 F.3d at 669. "An agency cannot restrict its analysis to those alternative means by which a particular applicant can reach his goals." Id. The agency has a duty instead "to exercise a degree of skepticism in dealing with self-serving statements from a prime beneficiary of the project." Id. The SEA has mistakenly opted for "wholesale acceptance of [the proposer's] definition of purpose" and therefore has eliminated from analysis an upgrade alternative which may indeed be the environmentally preferable alternative. See, id.

In addition, under the so-called "rule of reason" that governs agencies' determinations of the range of alternatives to be considered, "reviewing courts have insisted that the agency 'consider such alternatives to the proposed action as may *partially or completely* meet the proposal's goal.'" City of New York v. U.S. Dep't of Trans., 715 F.2d 732, 742 (2d Cir. (N.Y.) 1983) (emphasis added). The agency is not permitted "to narrow the objective of its action artificially and thereby circumvent the requirement that relevant alternatives be considered." Id., 715 F.2d at 743. The "upgrade only" option, by tapping into readily available federal revenue resources earmarked for railroad improvements, for example, would satisfy the proposal's goal of maintaining a viable railroad, at significantly less cost to the environment.

B. The SEA Must Examine ALL Reasonable Alternatives.

The SEA also backed away from the analysis of the reasonable alternative of an "upgrade only" due its belief that because railroads are not required to obtain STB approval for upgrades to their existing systems, that such an alternative was beyond the scope of the project's

environmental review.⁹ DEIS, p. A-51 to 52, ES-48, 6-8 n. 4. NEPA regulations, however, require the SEA to explore and objectively evaluate all reasonable alternatives including “reasonable alternatives not within the jurisdiction of the lead agency.” CEQ Reg. 40 C.F.R. §1502.14 (c). In the case of DM&E, implementing the “upgrade only” alternative is not to be rejected simply because the STB is without jurisdiction to order DM&E to pursue the upgrade. The important reality is that the STB does have jurisdiction, based on a thorough record of all jurisdictional and non-jurisdictional alternatives, to deny DM&E’s application to accomplish its revenue creation goal by means of construction of hundreds of miles of track and destruction of hundreds of miles of natural resources.

CONCLUSION

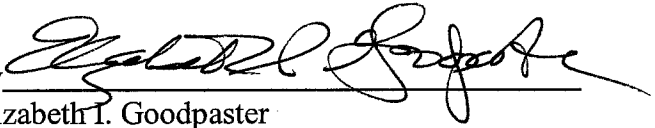
ME3 respectfully requests that the SEA include rigorous analysis of the air quality impacts that result from the increased availability and utilization of PRB coal by Midwest electric generating companies, an analysis which the SEA determined was within the scope of the EIS for the DM&E Project. Such analysis was overlooked in the DEIS. ME3 further requests that the SEA examine in depth the reasonable alternative of an “upgrade only” to DM&E’s existing rail system. The SEA omitted the “upgrade only” alternative in the DEIS, based on the SEA’s error of law that it need not look at alternatives, implementation of which rests outside the agency’s jurisdiction.

⁹ The SEA’s reasoning here is clearly erroneous given that a federal agency is required to examine a No Action Alternative, which is non-jurisdictional as well. Despite the fact that a No-Action Alternative is non-jurisdictional, SEA is required to consider the relative environmental impacts of the No-Action Alternative.

Respectfully Submitted,

Dated: March 6, 2001

O'NEILL, GRILLS & O'NEILL, P.L.L.P.

By 

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POWDER RIVER BASIN EXPANSION PROJECT WRITTEN COMMENTS ON THE DRAFT SCOPE OF STUDY FOR AN ENVIRONMENTAL IMPACT STUDY

Surface Transportation Board
Office of the Secretary
Case Control Unit
STB Finance Docket No. 33407

July 10, 1998

Elaine K. Kaiser
Chief, Section of Environmental Analysis
Environmental Filing
Surface Transportation Board
1925 K Street, NW
Washington DC 20423-0001

Dear Ms. Kaiser:

Minnesotans for an Energy-Efficient Economy (ME3) is a coalition of thirteen Minnesota and national organizations that have worked together since 1991 on issues related to energy and the environment. Our groups have an interest in the environmental issues which arise from the proposed Powder River Basin Expansion Project. These comments have been prepared by authorization of the coalition's governing board, but do not necessarily reflect the opinions of the Boards of Directors of individual member organizations.

The member organizations are as follows: Center for a Sustainable Economy, Washington DC; Center for Energy and the Environment, Minneapolis, MN; Clean Water Action Alliance, Washington DC and Minneapolis, MN; the Energy and Environment Resource Center, St. Paul, MN; Institute for Local Self-Reliance, Washington DC and Minneapolis, MN; Izaak Walton League of America (Midwest Office), St. Paul, MN; The Minnesota Project, St. Paul MN and Round Lake MN; Minnesota Renewable Energy Association; Minnesota Wind Energy Association; North American Water Office, Lake Elmo, MN; St. Paul Neighborhood Energy Consortium, St. Paul, MN; Sustainable Resources Center, Minneapolis, MN; Union of Concerned Scientists, Cambridge MA.

As a preamble, ME3 is normally strongly supportive of rail transit as a low-cost, and low-impact transportation mode for goods and services. For example, we were strongly supportive of Midwest high speed rail funding in the 1998 Congressional reauthorization of ISTEA.

The draft Scope of Study welcomes a discussion of the environmental costs or benefits associated with the increased availability and utilization of lower sulfur Powder River Basin coal. ME3 urges the Surface Transportation Board to fully explore this question because there is no compelling evidence that air quality would be improved or pollution from coal burning reduced.

According to news reports quoting DM&E President Kevin Schieffer, the project would ship 40 million tons of coal in its first year and 100 million tons annually within 10 years. This coal would be delivered to midwestern power plants for \$5.00 to \$10.00 per ton less than eastern coal.

The argument that the project would reduce sulfur dioxide pollution is not credible. The Clean Air Act caps

sulfur dioxide emissions at a fixed level, and then allows trading of emissions credits between owners of coal generating stations to optimize the economic efficiency of emissions reductions. When the next phase of the Clean Air Act kicks in, the increased stringency is achieved by lowering the cap, i.e., setting a new level of emissions to be allowed. But again, by capping emissions, coal generation stations will continue to emit sulfur dioxide, probably nearly exactly up to that lowered cap, and continue to trade emissions credits among themselves to optimize economic efficiency. Therefore, even if 100% of Powder River Basin coal displaced higher sulfur eastern coal, and NO net increased coal utilization resulted from the DM&E project, there would be no decreased sulfur dioxide emissions. Rather, midwestern utilities would achieve the same standard at lower cost.

In other words, the identical environmental standard for sulfur dioxide would be attained. Rather than serving to reduce emissions as alleged by proponents, the DM&E project only serves to avoid higher cost scrubbers on stacks of midwestern coal plants by substituting lower cost, lower emissions coal. In essence, midwestern utilities successfully transfer their costs of environmental compliance to communities in the Minnesota, South Dakota and Wyoming project area that endure new environmental degradation.

Unfortunately, this is the best case scenario for air emissions; the real story may not be as favorable.

According to the Energy Information Agency's Annual Energy Outlook 1998, the total 1996 U.S. coal production was 1064 million short tons, with 439 million from the West, 452 million from the Appalachian Region and 173 million from the Interior U.S. If DM&E ships 100 million tons of coal, and beats eastern coal \$5 to \$10/ton, rather than assuming a one-to-one displacement of eastern coal, it may be more reasonable to assume that some portion of sales displaces eastern coal, and some portion represents increased total sales of coal-fired electricity, because of its lowered cost.

The National Association of Regulatory Utility Commissioners commissioned a study of the question of competition between underutilized coal plants and natural gas combustion turbines that produce low levels of criteria air pollutants and half the carbon dioxide of coal generation. In *Grandfathering and Environmental Comparability: An Economic Analysis of Air Emissions Regulations and Economic Market Distortions*, Bruce Biewald and co-authors examine the current costs of coal generation at all of the nation's coal plants. They compare those operating and maintenance costs at America's coal fleet to the projected costs of natural gas combined cycle combustion turbines. Presuming the emergence of a competitive market in electricity, only about 6% of the 886 total U.S. coal plants would be more expensive to run than a new gas plant, assuming existing coal prices and more stringent SO₂ and nitrous oxide standards. In those 6% of U.S. coal plants, plant operators could seek to modernize plants with natural gas conversions and combined cycle turbines, or would lose market share to new generators elsewhere. In other words, the operations and fuel costs of 94% of U.S. coal plants are lower than capital costs and fuel for new low-polluting, high efficiency gas power plants.

But what if 100 million tons of coal comes to the heart of the U.S. coal market at a deep discount? According to EIA, coal delivered to U.S. power plants averages \$26.45/ton. A \$5 to \$10/ton cost discount for 100 million tons of coal is a major factor in midwest electricity markets, considering that the total U.S. market for coal is somewhat more than the 1064 million tons in 1996 sales (EIA, 1998).

A reasonable prediction is that wholesale sales of coal-generated electricity between midwestern utilities will go up, increasing the utilization of existing coal plants which are exempt from the new plant performance standards of the Clean Air Act. This EIS should investigate how a dramatic decrease in the price of approximately 10% of the nation's coal would affect the outlook for plant conversion from coal to gas. Would fewer coal plants conversions occur if DM&E brings cheaper coal to market? How much would economists estimate that coal-fired electricity sales would increase?

Is there demand in the Midwest for increased coal? Yes; in the Chicago area alone, in the past year, Commonwealth Edison has permanently closed two nuclear power stations totaling approximately 2000 megawatts, and an additional 3000 megawatts of nuclear reactors did not produce electricity within the past year. The future prospects of these generators is unknown.

Is there generation capacity within the Midwest to utilize more coal? Yes. According to the NARUC report in the East Central Area Reliability Council (ECAR), there are 263 coal generation units and they currently operate at an average capacity factor of 55%. This is not dissimilar to average capacity factors in other midwestern electric reliability regions such as MAPP and MAIN, or the national average capacity factor of 57% for the nation's fleet of 886 coal-fired generating units.

In simple terms, coal plants typically are operated at between half and two thirds their capacity, but according to North American Electric Reliability Council, a five-year average of their equivalent availability was 82% (1989-1993). This term represents what coal plants could be generating, with sufficient demand. This worse case would represent a 30% to 50% increase in operations. Nationally, the average cost of operations and fuel for coal plants is 2.0¢ per kilowatt hour. Reducing the cost of midwestern coal would likely increase the off-system sales of coal by midwestern utilities, enabling utilities to expand profits by serving new wholesale customers, and new retail customers after the market opens. Utilities in all three reliability regions (MAPP, MAIN and ECAR) have expressed support for the DM&E project.

To re-emphasize the earlier point: regulatory caps on sulfur dioxide should prevent SO₂ increases even if total coal utilization increases. New Clean Air Act standards for sulfur dioxide could still be achieved with a combination of scrubbers and low sulfur coal, again at an optimal economic efficiency.

However, nitrous oxides, which are precursors to ground level ozone and acid rain are currently not capped, or regulated in the same manner as sulfur dioxide. Neither are particulates, which are estimated to cause 60,000 premature deaths in the US. due to respiratory illnesses. Mercury emissions from coal-fired power plants are currently not regulated at all, and coal generating units contribute about a third of all deposition of toxic mercury into forests and aquatic habitats. At least 95% of Minnesota lakes have fish consumption advisories, that limit the recommended consumption of fish because of the risk of mercury poisoning. Any increased combustion of coal would increase the resultant mercury emissions and toxicity to fish, and humans who consume fish. The Minnesota Pollution Control Agency is conducting stakeholder meetings to seek mercury reduction strategies, and the working groups have spent considerable time on evaluating methods to reduce coal utilization in the Midwest as a means for reducing mercury deposition. The EIS should examine the impact of increased mercury deposition on aquatic habitats both within and outside the project area.

Similarly, increased use of coal in the Midwest would lead to greater greenhouse gas emissions. Greenhouse gas emissions are not regulated, but increasing emissions seems unwise at a time when nations are debating ratification of Kyoto treaty that would commit the U.S. to reducing emissions of carbon dioxide by 7% by 2008-2012. The electricity sector represents approximately a third of U.S. emissions, and the Energy Information Administration in 1998 reports that U.S. emissions soared more than 3% in the past year, and coal use increased 8% over two years. In other words, the EIS should examine whether bringing lower cost coal to the Midwest will make achieving greenhouse reduction goals more difficult, and more expensive, should the U.S. agree to reductions. Should the Surface Transportation Board approve an infrastructure project that may run directly contrary to the Administration's agreements with 166 nations in Kyoto, prior to its debate in the U.S. Senate?

Indeed, if the DM&E project results in expanded utilization of coal, approval of the plan would prevent serious commitments to CO₂ reductions, thereby prolonging or exacerbating global warming damages to

ecological systems, human health, and increasing environmental impacts of severe weather events, including floods, droughts, and intense one-day snowfalls, intense one-day rainfalls, as described by the Intergovernmental Panel on Climate Change. An initial compilation of potential regional impacts of global climate change is assembled by the United States Global Change Research Program, which met in Grand Forks, North Dakota in November 1997 and Ann Arbor, Michigan in May 1998. The EIS should include a section on impacts from global warming to the degree that an expanded market for coal in the Midwest would increase the difficulty of achieving emissions reductions goals detailed in the Kyoto treaty.

Our focus on the energy/environmental impacts in no way diminishes the concerns of communities that must endure the disruption, noise, particulates, coal dust, traffic delay, carbon monoxide from auto exhaust, and the depletion of the coal mining lands of the Powder River Basin. We believe that it is reasonable for the EIS to include impacts on children and elderly in the communities that host coal generating stations who suffer respiratory illnesses, and ever-increasing asthma, and the larger human and biological communities that sustain damage by unregulated pollutants such as mercury and carbon dioxide. Additionally, the EIS should examine the impacts of increased river barge traffic on riparian habitat and ecosystems.

In addition to our concerns about the impacts of emissions from coal fired generation stations, we are please to see the draft scope include item 7B, an analysis of the environmental impacts of the new rail on utilization of the nation's energy resources. The no-build option does not mean that energy resources cannot move to market. As is clear from the draft Scope of Study for the EIS, this construction of a new mainline extension is to solely access coal mines south of Gillette, Wyoming. The \$1.2-\$1.4 billion dollar investment is proposed to bring low-cost energy resources to market. We expect some comments to forcefully argue that the no-build option is not feasible, making an aggressive case that new energy resources are needed by midwestern utilities. But existing midwestern coal resources exact enormous environmental costs. As we have argued herein, the DM & E project could substantially increase regional and global impacts, in addition to the enormous environmental costs to the most affected communities.

Most environmental costs are, of course, ignored by the market, a perversity which makes shipping coal from Wyoming to Eisenhower-era coal plants in the Midwest cheaper than building modern technology for the 21st century. Modern technology includes combined cycle natural gas turbines, or wind turbines on the High Plains of South Dakota and fuel cells that could power community energy systems providing district heating and cooling. In May 1998, a Minnesota Court of Appeals upheld a Minnesota Public Utilities Commission decision that a conservative estimate of the projected cost of damage to our children from global warming alone, based on carbon dioxide emissions from Minnesota alone, was between \$1 billion and \$6.5 billion per year, although those future damages were heavily discounted to present value.

Alternatively, Midwest energy markets could be served with thousands of megawatts of Minnesota and South Dakota wind energy. National Wind Coordinating Commission discussions in Sioux Falls SD in June 1998 identified South Dakota as having one of the nation's best wind resources, and discussion returned several times to how South Dakota is ripe for large-scale wind development, provided that power can move to markets. Attendees visited a \$150 million Enron wind development just across the Minnesota border that is part of a \$500 million development over the next few years. When completed, Minnesota will have only scratched the surface of development potential, supplying Minnesota with 1-2% of its electrical energy needs. Markets for new wind energy in Minnesota and Iowa have exploded and wind prices are falling below the 3.5¢ per kilowatt hour, a price reduction of more than 75% in two decades. Yet wind power is not likely to successfully compete with the unused capacity of existing highly-polluting midwestern coal plants with only operations and fuel as direct costs. Indirect environmental costs are born by society, and this project proposes to burden more communities with more costs.

According to the provisions of the Clean Air Act and the Clean Air Act Amendments, the oldest coal

plants that were grandfathered on the assurance that would be soon decommissioned, and therefore exempt from the most stringent Clean Air Act performance standards. Given that such coal plants have no capital cost because they are fully amortized, and they run on Eisenhower-era pollution abatement equipment, they have a significant price advantage over the clean technologies of the future, such as wind turbines. Development of hundreds of megawatts (hundreds of millions of dollars of capital investment) of South Dakota's wind resource could be accomplished with the unused capacity of South Dakota's existing transmission system, but a comparable investment of \$1.2-\$1.4 billion in transmission infrastructure to maximize South Dakota's potential for wind energy exports could foster the development of many times more clean, non-polluting energy. A careful systems analysis, including transmission capacity and line losses, wind speed measurements, and providing necessary firm backup power would all be part of a Midwest plan, but there is no technical barrier to Great Plains wind energy supplying 15% or more of the entire electricity needs of a dozen midwestern states.

To support expanded infrastructure for coal is to invest in the past. Despite some advanced coal combustion technology, the average coal generation unit is technology that is unchanged in performance or efficiency in 75 years. Although the public will generally find participation in this forum administratively overwhelming, environmental protection and aggressive renewable energy development would be strongly publicly supported, in lieu of infrastructure investments for obsolete technology and a fuel source that may be an environmental dead end. Countless polls show that clean energy and a clean environment is what the public wants out of their electricity system, even more than they want low cost.

ME3 recommends that because the potential increased utilization of coal would be of major significance for any complete Environmental Impact Statement, the EIS must include a sensitivity analysis examining various scenarios of increased total coal utilization (low sulfur + high sulfur), assuming alternative price impacts on coal-fired electricity, and alternative electricity price elasticities. For this analysis, the Surface Transportation Board should request assistance of the Department of Energy's Energy Information Administration. Within the EIA, the Office of Integrated Analysis and Forecasting employs a highly-respected National Energy Modeling System, and there is precedent of favorable responses to requests from other units of the executive or legislative branch.

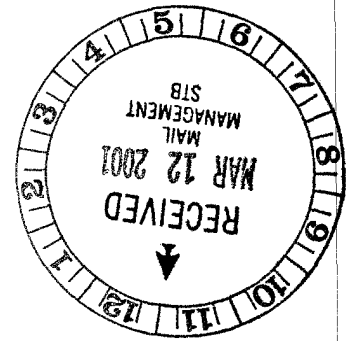
Sincerely,

Michael Noble
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B

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Tellus Institute, Boston, MA. Senior Scientist and Manager of the Electricity Program, 1989 to 1996. Responsible for research and consulting on all aspects of electric system planning, regulation, and restructuring.
Research Associate, later Associate Scientist, 1980 to 1988.

EDUCATION

Massachusetts Institute of Technology,
BS 1981, Architecture, Building Technology, Energy Use in Buildings.
Harvard University Extension School,
1989/90, Graduate courses in micro and macroeconomics.

SUMMARY OF TESTIMONY, PUBLICATIONS, AND PRESENTATIONS

Expert testimony on energy, economic, and environmental issues in seventy regulatory proceedings in two Canadian provinces, twenty five States, and before the Federal Energy Regulatory Commission.

Co-author of more than one hundred reports, including studies for the Electric Power Research Institute, the U.S. Department of Energy, the U.S. Environmental Protection Agency, the Office of Technology Assessment, the New England Governors' Conference, and the National Association of Regulatory Utility Commissioners.

Papers published in the Electricity Journal, the Energy Journal, Energy Policy, Public Utilities Fortnightly, and numerous conference proceedings.

Invited to speak by American Society of Mechanical Engineers, International Atomic Energy Agency, National Association of Regulatory Utility Commissioners, National Association of State Utility Consumer Advocates, National Consumer Law Center, the Latin American Energy Association (OLADE), the Swedish Environmental Protection Agency (SNV), the U.S. Environmental Protection Agency, and others.

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California Public Utilities Commission (Rulemaking 99-10-025) – July 2000

Distributed generation and related rate design issues. Also, rebuttal testimony in August.

Massachusetts Department of Environmental Protection – July 2000

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Washington Utilities and Transportation Commission (Docket No. UE-981627) – June 1999

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Maryland Public Service Commission (Case No. 8795) – December 1998

Simulation analysis of the PJM market and projected market prices for electricity for estimation of Delmarva Power and Light Company's stranded generation costs and unbundled rates.

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Simulation analysis of the PJM market and projected market prices for electricity for estimation of Baltimore Gas and Electric Company's stranded generation costs and unbundled rates.

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California Public Utilities Commission (Application No. 97-12-020) – July 1998

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Affidavit on market power implications of the proposed merger between Allegheny Power System and Duquesne Light Company.

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Pennsylvania Public Utility Commission (Docket R-00973981) – November 1997

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Pennsylvania Public Utility Commission (Docket No. R-00973953) – September 1997

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Pennsylvania Public Utility Commission (Docket No. R-00973877) -- February 1997
Application of PECO Energy Company for Issuance of a Qualified Rate Order. Nuclear power plant decommissioning costs, stranded cost recovery, and securitization.

New Hampshire Public Utilities Commission (DR 96-150) -- November 1996
Electric industry restructuring, including stranded costs, industry structure, market power, and nuclear issues.

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Nuclear plant stranded costs and decommissioning.

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Electric industry restructuring, including stranded costs, industry structure, and environmental protection.

Ontario Energy Board (H.R. 23) -- June 1995
Electricity rate options (joint evidence with John Stutz).

Pennsylvania Public Utility Commission (R-00943271) -- April 1995
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Public Service Commission of Nevada (94-9002) – November 1994
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Arizona Corporation Commission (U-1345-85-367) – February 1987

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Public Service Commission of Indiana (38045) – November 1986

Northern Indiana Public Service Company system reliability and excess capacity.

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Michigan Public Service Commission (U-8291) – April 1986

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