

E-002/RP-93-630 ORDER APPROVING NSP'S 1993 RESOURCE PLAN AS MODIFIED,
REQUIRING DETAILED COMPLIANCE FILING, AND SETTING REQUIREMENTS FOR
1995 RESOURCE PLAN FILING

BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

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In the Matter of Northern States Power
Company's Application for Resource Plan
Approval 1994-2008

ISSUE DATE: July 15, 1994

DOCKET NO. E-002/RP-93-630

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RESOURCE PLAN AS MODIFIED,
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PROCEDURAL HISTORY

On July 1, 1993, Northern States Power Company (NSP or the Company) filed its Resource Plan with the Commission pursuant to Minnesota Rules, Parts 7843.0100 to 7843.0600. The matter was assigned to this docket, E-002/RP-93-630 (the Resource Plan Docket).

On July 9, 1993, the Commission issued its ORDER REQUIRING FURTHER FILINGS REGARDING BIDDING PROPOSAL in Docket No. E-002/CI-93-6. That docket was opened to treat the Company's plan to use a competitive bidding process and is referred to hereinafter as the Bidding Docket. Among other things, the July 9, 1993 Order required NSP to file its Generic Request for Proposal (RFP) in this docket (the Resource Plan Docket) by July 30, 1994.

On October 26, 1993, the Commission issued its ORDER GRANTING PETITIONS TO INTERVENE in this matter. The Commission granted the petitions of the Izaak Walton League of America (IWLA), Minnesotans for an Energy Efficient Economy (ME3), the Union of Concerned Scientists (UCS), Mankato Area Environmentalists (MAE), Northern Natural Power, and the Institute for Local Self Reliance to intervene in this proceeding. According to the resource plan rules, the Minnesota Department of Public Service (the Department) and the Residential Utilities Division of the Office of the Attorney General (RUD-OAG) intervened as of right in this proceeding.

On November 1, 1993, the following parties filed comments on NSP's resource plan: UCS, the Department, the North Star Chapter Sierra Club, the North Dakota Public Service Commission, ME3, the City of Minneapolis, District Energy of St. Paul, Northern Natural Power, the IWLA, the Minnesota Renewable Energy Society, the RUD-OAG, and the Wisconsin Public Service Commission Staff.

On November 5, 1994, the Commission received comments and a motion to accept late-filed comments from the Minnesota Pollution Control Agency as well as the IWLA's Petition for Contested Case.

On December 9, 1993, the Commission issued its ORDER CONSOLIDATING DOCKETS AND REQUIRING FURTHER FILINGS in this docket and the Bidding Docket. In that Order, the Commission consolidated the Resource Plan Docket and the Bidding Docket (E-002/CI-93-6) and required NSP to provide additional comments with respect to the bidding procedure in its January 3, 1994 response comments.

On December 30, 1993, the Commission issued an ORDER EXTENDING COMMENT PERIODS, which extended the time for all parties to file the bidding information to January 31, 1994, and extended response periods accordingly.

On January 3, 1994, the Commission received response comments from the following parties: ME3, Northern Natural Power, NSP, the IWLA, the Department, and the RUD-OAG.

For purposes of deliberation, the Commission considered the Resource Plan Docket and the Bidding Docket separately. On May 25, 1994, the Commission met to hear briefing and oral argument from the parties regarding the Resource Plan Docket and on May 26, 1994 met to deliberate the Resource Plan Docket. This Order addresses the decisions made with respect to that matter.¹

FINDINGS AND CONCLUSIONS

I. BACKGROUND

The Commission's resource planning rules are detailed, but basically require electric utilities to file

- biennial reports on the projected energy needs of their service areas over the next 15 years
- their plans for meeting projected need
- the analytical process used to develop their plans and
- their reasons for selecting the specific resource combination proposed.

The rules are designed to strengthen the long term planning processes of utilities by providing input from the public, other regulatory agencies, and the Commission. They are also intended to ensure that utilities making resource decisions give adequate consideration to factors whose public policy importance has grown in recent years, such as the environmental and socioeconomic impact of different resource mixes.

The focus of this Order is NSP's Resource Plan for the next 15 years, the period from 1994 to 2008. This is the Company's second biennial resource plan under the Commission's rules, Minn. Rules, parts 7843.0100 to 7843.0600.

¹ The Bidding Docket was addressed separately. On June 1, 1994, the Commission met to hear briefing and oral argument from the parties regarding issues raised in the Bidding Docket and on July 7, 1994 to deliberate that matter. The Commission will address the Bidding Docket issues in a separate Order.

Minn. Stat. § 216B.2422, subd. 2 (1993 Supp.) requires the Commission to approve, reject or modify the plan, consistent with the public interest.

II. SUMMARY

The record in this matter contains detailed and insightful comments from several interested parties regarding NSP's proposed plan. The commenting parties offered many suggestions for modifying NSP's current Resource Plan, as well as recommendations for strengthening the Company's 1995 Resource Plan filing. No intervenor or participant recommended that the Commission approve NSP's proposed plan as filed. In the course of this docket, NSP agreed to many of the proposed modifications.

Based on its analysis of NSP's filings and parties' comments, the Commission will make a number of modifications to the Company's plan, approve the plan as modified, and require the Company to file additional information both in a compliance filing and in the 1995 Resource Plan filing, as specified in the Ordering Paragraphs.

III. ISSUE BY ISSUE ANALYSIS

A. Forecast and Resource Needs

NSP explained that its forecast is developed using a set of econometric models that relate historic sales to economic and demographic variables. NSP used the models to develop a median forecast and four other scenarios: a semi-low and semi-high to reflect narrow alternative paths for the economy, and low and high scenarios to reflect broader risk. NSP used the bandwidth between the semi-low and semi-high forecast for planning purposes.

Using those scenarios, NSP made the following forecasts:

- ◆ that peak demand will grow annually at a rate of 2.2% to 3.2% (median 2.6%) and
- ◆ that energy requirements will grow annually at a rate of 2.0% to 3.2% (median 2.5%).

NSP noted that its forecast accounts for the fact that the Company will lose 9 municipal customers in 1995 and 1996. The Company does not anticipate losing any additional wholesale customers during the forecast period.

The Department recommended that the Commission adopt the Department's forecast, which predicts lower energy and summer peak requirements over the planning period than NSP's forecast. The Department also recommended that the Commission require the Company to prepare a plan for estimating an end-use forecast model.

Regarding the forecast issue, the Commission finds that the Department's forecast contained errors and that once the Department's forecast was corrected, its energy forecast differs from NSP's by only 0.03 percent and its summer peak demand forecast differs by less than two percent.

As to end-use forecasting favored by the Department, the Commission finds that conducting an end-use forecast would be costly and time-consuming without any improvement to the overall accuracy of the forecast. NSP's current forecast model is sophisticated and has produced forecasts that have been extremely accurate over the long term.

Accordingly, the Commission will adopt the Company's forecast and reject the Department's recommendation that NSP develop a plan for estimating an end-use forecast model for use in its next resource plan filing.

B. Integration

Integration in resource planning is the simultaneous consideration of supply-side and demand-side resources to meet resource needs. The levels of both are varied in the plan until the optimal combination of supply- and demand-side resources is located.²

In its 1993 Resource Plan, NSP's integrated scenario analysis followed the integration method agreed to by the collaborative which was required by the Commission's Order regarding the 1991 Resource Plan. The Company's scenario analysis involved two major steps:

First, the Company constructed various demand and supply scenarios using the resource options which passed the screening. Second, it tested the impact of each scenario on system-wide costs. To do this, it held fixed the specified levels of DSM and renewables in each scenario and determined the least-cost mix of other resources to meet total system demands.³

The commenting parties (the Department, the RUD-OAG, the IWLA and the North Star Chapter Sierra Club) noted the Company's progress but pointed out several areas for improvement in the Company's approach. For instance, the IWLA noted that a fully integrated plan should include varying levels of many types of capacity and DSM, depending on the need for resources. The IWLA argued that supply- and demand side resource considerations are not truly integrated as long as demand-side resources are forecast as a constant. IWLA complained that the "simultaneous integration approach" endorsed by the 1991 Resource Plan Collaborative and used by NSP in this proceeding still produces DSM at the same level for all forecast levels. The IWLA recommended that the Commission reaffirm its expectation that NSP will fully integrate demand and supply resources in all future resource plans.

² A major criticism of the Company's 1991 Resource Plan was that it failed to fully integrate its planning. In general, the Company first set its demand-side goals, and then filled in the remainder of the forecast need with supply-side resources. In the 1991 Order, the Commission required the Company, through its resource plan collaborative, to propose a method for integrating demand-side management (DSM) into the Company's supply-side planning. The 1991 Resource Plan collaborative made the integration issue its first priority.

³ In addition, the Company developed its least-cost plans using the Electric Generation Expansion Analysis System (EGEAS) which estimates overall system emissions of SO₂, NO_x, particulates and CO₂.

The Commission is encouraged by NSP's progress in this area and will require NSP to continue improving its integration, with particular attention to its assumptions regarding demand-side resources. This can be done in conjunction with its review of its DSM goal, which it proposes to undertake for its 1995 Resource Plan Filing.

C. Demand-Side Management

1. Data Issues

The Department noted an inconsistency in figures used by NSP in the demand-side management portion of its 1993 Resource Plan. The Department noted that NSP's forecasting and marketing units use different methods to quantify the effects of strategic conservation and load management. To avoid this inconsistency in future resource filings, the Department recommended that the Commission require the Company to adopt the forecasting department's data for purposes of resource planning.

In its reply comments, NSP agreed that it should use DSM impact numbers prepared by its forecasting unit. The Company noted, however, that if this recommendation is adopted, the Commission-mandated goal must also be translated, since that goal is stated in terms developed by the marketing department in the conservation improvement program (CIP) process.

Use of consistent figures will certainly increase the utility of the plan. Between the two units' estimates, the forecasting unit figures are preferable for resource plan purposes because they better reflect the actual impacts of DSM on the Company's resource needs. Accordingly, the Commission will require NSP to use the forecasting unit's method of calculating data throughout its future resource plan filings. The Commission will also direct the Company to consult with interested parties and include a translation of the DSM goal mandated by the Commission in this Order as part of its compliance filing.

2. DSM Goal

NSP proposed that the Commission not change the current goal in this plan: Demand Savings of 1,785 MW and Energy Savings 4,044 GWH by 2005, total avoided present value revenue requirements \$4.5 billion. NSP suggested that it would reevaluate and perhaps propose modifications to the goal in its 1995 Resource Plan Filing.

The Commission is concerned about the cursory treatment of demand-side management in this plan. While the record provides no basis to change the DSM goal set in the 1991 resource plan, neither does it provide the basis for a full evaluation of that goal. Because DSM is expected to make a significant contribution to NSP's resources over the planning period, the shallow record is a particularly disappointing weakness that must not be repeated.

For the 1995 Resource Plan, therefore, the Commission will require that the Company

- prepare a comprehensive DSM goal extending through the year 2010, using its integrated scenarios to optimize the goal,
- discuss where and why the goal is different from the 1991 goal,
- show the effect of different forecasts and avoided supply costs on the goal,
- prepare contingency scenarios that assume achievement of 70, 85 and 110 percent of the goal, and
- report on how the issues of persistence and total program costs are addressed in the CIP process, including a discussion of any Department decisions on these issues.

3. Free Riders, Persistence and DSM Costs

The RUD-OAG filed extensive comments on the necessity of ensuring that DSM savings actually materialize, and that costs and benefits are accurately stated. It recommended that the Company conduct studies of free ridership and persistence, and a thorough review of total utility and customer costs related to each major DSM program.

NSP noted that the Commission ordered the Company to address several of these issues in its request for a new or modified DSM financial incentive in Docket No. E-002/M-93-1327. The Company also argued that the other actions requested by the OAG are being evaluated in the CIP process at the Department of Public Service.

The Commission acknowledges the related activity in Docket No. E-002/M-93-1327 and in the CIP process⁴ but finds that it is appropriate to incorporate that information into the resource plan evaluation. Accordingly, the Commission will require the Company to submit a report to the Commission on how the issues of persistence and total program costs are addressed in the CIP process, as well as a discussion of any Department decisions on these issues, in its 1995 Resource Plan.

⁴ On May 23, 1994, the Commission issued its ORDER EXTENDING AND MODIFYING PILOT PROJECT AND REQUIRING ADDITIONAL FILINGS in Docket No. E-002/M-93-1327 requiring NSP to conduct the free-rider study requested by the RUD-OAG.

4. Non-utility Actions

ME3 recommended that the Commission require NSP to examine the potential for promoting non-utility conservation actions, which are not considered in the CIP process. Non-utility actions to reduce the demand for electricity would include adoption of government efficiency standards, energy code enforcement, taxes, education and efficiency R&D.

NSP argued that its has been active in most of these areas, but in general opposes an energy or carbon tax.

The Commission finds that NSP's level of involvement in non-utility actions is acceptable. The Company also takes particular care to ensure that its programs do not interfere with non-utility actions, such as government efficiency standards. No further action in this area is indicated at this time.

D. Supply Side Investment Issues

1. Value of Scenarios/Importance of Using Accurate Costs in Scenarios

NSP built its supply-side discussion around nine "integrated supply scenarios," which sought to show the effects of various supply side additions to NSP's system over the planning period.

	Scenario	\$ Change in PVRR (\$ billion)	PVRR (\$ billion)	% Change in PVRR
Comparison		-	49.2	-
	Base	1.1	50.3	2.2%
Wind	Low Cost	0.2	49.4	0.4%
	Low Accred.	1.2	50.4	2.4%
	Base	1.3	50.5	2.6%
Whole Tree	Low Fuel Cost	0.1	49.3	0.2%
Biomass		3.7	52.9	7.5%
All-Renewable		15.2	64.4	30.9%
Pulverized Coal		-1.0	48.2	-2.0

NSP advocated adoption of the "comparison scenario," which consists of its current DSM goal, 100 MW of wind generation, 150 MW of dispersed generation by 2000, peak needs met through combustion turbines, intermediate needs met through gas-fired combined cycle turbines, and coal Integrated Gasification Combined Cycle (IGCC) to meet base needs.

It is important to note that the scenarios do not in any way represent all of the possibilities for supply-side additions on NSP's system, nor do they represent what is likely to happen over the planning period. NSP has selected competitive bidding as its resource procurement

strategy and, therefore, cannot predict that its system additions will approximate the comparison scenario or any other scenario proposed by the Company.

Nevertheless, the scenarios serve a number of purposes. First, they allow comparison with the Company's competitive bidding proposal. The scenarios can be compared with the generic RFP to see if they would select the same resources, given the distribution of points in the RFP. Second, examination of the scenarios reveals the Company's implicit valuation of environmental costs⁵ which then can be compared with the explicit values proposed by the Company in the externalities section.

While the competitive bidding process, not the scenarios, will select future resources, they may incline the Company to bias the bidding process against certain resources on factors other than cost, resulting in the exclusion of those resources even if bidders submit more realistic and competitive cost estimates.

The potential influence of the scenarios underlines the critical importance of accurate cost assumptions for the scenarios. For example, in the case of both NSP's wind and whole tree scenarios, moving from a high to a low cost assumption creates a scenario which compares favorably with the Comparison Scenario.

2. Cost of Renewables in Scenarios

The Commission has examined the generation costs used by NSP in its wind and biomass scenarios and found significant problems:

Wind Scenario

The OAG, the IWLA, UCS, Northern and the Department all asserted that NSP's *low-cost* wind scenario most likely represents the *current* cost of wind. Several of those parties suggested that costs were likely to decline significantly over the planning period. The RUD-OAG recommended that the Company be required to use \$1,000/kW as an upper bound on its estimate of wind costs, and \$850/kW as a future cost.

NSP based its \$1500/kW *base* wind cost on the results of its aborted equipment bid for the Lake Benton site. Later in its January 31, 1994 comments relating to the Bidding Docket, the Company used lower costs for wind. In its evaluation of the revised RFP, NSP used wind costs of \$1100 and \$850/kW. At the hearing on the Resource Plan, the Company did not object to the RUD-OAG's figures and agreed that it should revise and update its cost

⁵ For example, in its preferred ("Comparison") plan, NSP proposed to use coal Integrated Gasification Combined Cycle (IGCC) to meet its baseload needs, at a cost of approximately \$1.0 billion more than pulverized coal plants would cost. Because the benefits of selecting one resource over the other are mainly environmental, this represents an implicit value for environmental costs. It is impossible to know how that value is distributed among various pollutants, but it is likely that any combination results in higher values than those proposed explicitly by NSP. The treatment of externalities is discussed further in section VII.

calculations for the current and future cost of wind, but argued that it should not be required to do so before filing its next resource plan.

To promote consistency between the RFP and the Resource Plan and to use wind figures that appear more realistic, the Commission will approve the RUD-OAG's proposed costs for wind generation and require NSP to file revised wind scenarios based on those costs. As to the timing of the update: having found the current and future costs of wind in this Order (\$1000 and \$850/kW) Commission finds that there is no reason not to use these wind costs in the scenarios it will refile as part of the compliance filing for this Order.

Biomass and Whole Tree Scenarios

It is impossible to effectively compare costs and benefits when a utility fails to use consistent assumptions throughout its planning. In this docket, NSP explained that it did not consider including Biomass Gasification Combined Cycle (BGCC) in its Resource Plan because BGCC is not sufficiently developed. However, the Company selected coal Integrated Gasification Combined Cycle (IGCC), a non-renewable technology, as its baseload technology for the future even though IGCC is not commercially available at this time either.

In addition, it appears that the Company may have used cost figures for biomass that are out of date. The OAG and the IWLA questioned NSP's cost estimates for the Company's biomass scenarios, which included the whole-tree scenarios and a crop-fueled biomass scenario.

- The IWLA suggested that the feasibility study on whole-tree burning which is being conducted by Minnesota Power and Wisconsin Power and Light will show that the fuel cost for whole tree technology will be much lower than NSP's estimate of \$3.25/Mbtu.
- The RUD-OAG compared the biomass cost estimates that NSP originally filed in this Resource Plan Docket with cost factors used by NSP in its application to the National Renewable Energy Laboratory (NREL) for funds to study cutting-edge biomass gasification technology, and to cost factors from academic literature on biomass gasification. The RUD-OAG concluded that biomass gasification combined cycle (BGCC) may cost half as much to build, be more than twice as fuel-efficient, and burn fuel costing one-third as much as estimated by NSP in its resource plan. The OAG argued that based on NSP's own updated figures, a BGCC would compare favorably with IGCC, pulverized coal, or any other baseload resource on direct cost alone.

At the hearing on this matter, NSP did not object to updating its cost estimates for whole-tree and biomass generation but argued that it should not be required to do so prior to filing its next resource plan.

The Commission finds that it would be inappropriate to wait until the next resource plan filing to modify the scenarios. It is likely that the Company will be required to make supply side decisions between now and the time the Commission reviews the Company's 1995

Resource Plan. During that time period, the Company should have the benefit of the most accurate scenarios.

Accordingly, the Commission will require NSP to update its cost estimates for whole-tree and biomass generation with the most recent data available, giving particular attention to the cost of biomass gasification. The Company will file new whole-tree and biomass scenarios using this new cost data as part of the compliance filing in this Order.

3. Incorporation of Social and Environmental Costs (Externalities) in the Resource Scenarios

Social and environmental costs are measures of the social and environmental harm to society associated with electric power generation. Social costs may include such things as higher unemployment caused by switching energy sources, or illness and death resulting from mining. Environmental costs include such things as the damage to water resources caused by acid rain. Historically, utilities have ignored these costs in assessing their resource needs, focusing solely on the direct costs of acquiring and using the various fuels selected to power their generators.

Minnesota's rules governing resource plan proceedings place social and environmental concerns in the planning calculus of utilities. Specifically, these rules require that resource plans be evaluated based on their ability to, among other things, minimize adverse socioeconomic and environmental effects.

Environmental Costs

In May of 1993, the Minnesota Legislature enacted a law that contains a number of provisions related to renewable energy and resource planning. Laws of Minnesota 1993, Chapter 356, Section 3. The law requires that the Commission quantify and establish a range of environmental costs associated with each method of electricity generation.

The law further requires each utility to use these values in conjunction with other external factors when evaluating resource options in all proceedings before the Commission.

In its July 1, 1993 Resource Plan filing, NSP examined and came up with potential externality values for four air emissions (SO₂, NO_x, VOCs, and PM-10). Next, the Company evaluated the potential effect of incorporating these externality values into its resource planning decisions. NSP concluded that even using externality cost values at the high end of the Company's range, the impact on NSP resource decisions is not significant.

On March 1, 1994, the Commission issued its ORDER ESTABLISHING INTERIM ENVIRONMENTAL COST VALUES in Docket No. E-999/CI-93-583. In its Order, the Commission:

- adopted ranges of interim values for five air emissions: sulphur dioxide (SO₂), nitrous oxide (NO_x), Volatile Organic Compounds (VOCs), particulates (PM-10), and CO₂
- noted that it would await the development of a more comprehensive record to decide whether to adopt values for other emissions (e.g. methane, nitrous oxide, carbon monoxide and mercury)
- ordered utilities to apply these values in all proceedings before the Commission that involve the evaluation and selection of resource options, including resource

plan and certificate of need proceedings⁶

- ordered utilities to provide cost information in resource plan proceedings at the following three levels: (1) the direct cost of resources without regard to environmental externalities, (2) the direct cost plus the minimum values in the ranges specified, and (3) the direct cost plus the maximum values in the established ranges

At the hearing, NSP stated that it would use whatever values the Commission had adopted by January 1995 when it files its 1995 Resource Plan.⁷ NSP argued, however, that it would be unfair to require it to revise its 1993 resource scenarios using the environmental costs subsequently adopted by the Commission. The Company reasoned that when it filed the 1993 Resource Plan in July '93 there was no way for it to know what environmental costs the Commission would adopt in March '94. While this is no doubt true, it is beside the point. The point of constructing scenarios is to provide the Company with the most accurate information to inform its resource planning. Unquestionably, the usefulness of the scenarios is enhanced by using the most current environmental cost figures available.

Accordingly, the Commission will require the Company to refile its 1993 Resource Plan with resource scenarios that reflect the interim externality values adopted by the Commission. The Company should provide estimates of the cost of each of its resource scenarios at the following three levels:

- the direct cost of resources without regard to environmental externalities
- the direct cost plus the minimum values in the ranges specified in the 93-583 docket
- the direct cost plus the maximum values in the ranges specified in the 93-583 docket

Socioeconomic Costs

The Commission is also required under Minnesota Rules 7843.0500 to take *socioeconomic* (non-environmental) costs into consideration when evaluating and selecting resource options. In its Order approving and modifying NSP's 1991 resource plan, the Commission ordered NSP to make its social cost valuation more explicit in the Company's next resource plan. The Commission noted that a more explicit valuation does not necessarily entail quantification of these costs.

In its 1993 plan filing, NSP did not provide the required explicit valuation of social costs and explained in its reply comments that in the 93-583 proceeding on externalities the Commission

⁶ Having set interim externality values for these emissions, the Commission finds it inappropriate to also set targets for those emissions, as advocated by ME3, the Sierra Club, and the City of Minneapolis. As noted by the Department, setting emission standards (targets) is inconsistent with the social cost approach to planning. The aim of incorporating a social cost approach is to yield the optimum levels of emissions. By imposing minimums or caps on emissions, the Commission would be mandating the very results that the planning process is supposed to determine.

⁷ The Company initially argued that when it files its 1995 Resource Plan it should be free to use environmental cost figures other than the interim values adopted by the Commission's March 1, 1994 Order in Docket No. E-999/CI-93-583. Because the Company has withdrawn this contention, its merit need not be discussed.

would provide direction on implementation and valuation issues for non-environmental externalities. However, the Commission's Order in the 93-583 docket did not address the treatment of non-environmental externalities in resource planning.

As part of its comments in the 1993 proceeding, the Department suggested that socioeconomic factors such as significant net job creation and increases in economic activity can and should be quantified for resource planning purposes. However, to be consistent with new legislation governing externalities, the Department argued that the Commission should adopt a qualitative approach to considering other socioeconomic impacts.

The Department's recommendation that the Company take a more rigorous approach to quantifying the net effects of non-environmental externalities such as significant net job creation and increases in economic activity merits attention. The Commission will direct NSP to discuss this recommendation with the Department and other interested parties. The Company should report the results of these discussions to the Commission. In its 1995 resource plan filing, the Company will be required to incorporate any agreed-upon methods for *quantification* of non-environmental costs and make its *qualitative* consideration of non-environmental externalities more explicit.

4. Clean Air Act Compliance Costs

Resource planning should take into account costs specifically incurred to comply with environmental legislation such as the Clean Air Act. In evaluating the various resource scenarios, it is important to include the compliance costs attributable to the generation of electricity using any particular energy resource.

Accordingly, the Commission will adopt the IWLA's recommendation and require the Company to perform an evaluation of its anticipated costs of compliance with Phase II of the Clean Air Act Amendments. In addition, the Commission will also direct the Company to provide a discussion of its efforts to comply with Phase I of the Amendments. This discussion on both Phases should include, at a minimum:

- the Company's plan for compliance
- the costs of compliance
- the affected units
- the contingencies or alternatives for compliance it has evaluated
- how the requirements and/or administration of the Act by the EPA have changed the program
- the Company's efforts to comply with the program

5. Accounting for the Risk of Future Government Regulation of Greenhouse Gases and Other Pollutants

UCS noted that just as the Clean Air Act Amendments made coal-fired power generation more expensive, future regulation of greenhouse gases and other pollutants may increase the costs of all fossil generation.

The Wisconsin Public Service Commission requires utilities to consider environmental externalities in their resource plans, including specific monetized values for greenhouse gases. The Wisconsin Public Service Commission adopted the following values to account for the risk to utilities of future government regulation of greenhouse gases: CO₂, \$15/ton; methane, \$150/ton; and nitrous oxide, \$2,700/ton.

It is unclear to what extent the Commission's interim externality values account for the "regulatory risk" factor. The Commission will require NSP to discuss further any low cost risk mitigation strategies against future regulation of CO₂ and other greenhouse gases. The parties may wish to discuss the extent to which any Company expenditures to oppose such regulation should be accounted for in the resource planning process. This information should be included in NSP 1995 resource plan filing.

5. Other Wind Issues: Monitoring and Accreditation

The Department, UCS and the IWLA recommended that NSP be required to perform extensive additional wind *monitoring* to develop data on the wind resource throughout its service territory. Northern disagreed, arguing that we already know a great deal about the resource and that it is time to proceed with utility scale wind installation.

The Commission will not require NSP to do additional monitoring at this time. There is already substantial monitoring occurring throughout the state. NSP is also conducting a joint project with other North Dakota utilities (including Otter Tail Power) to assess the wind resource in that state. In addition, the Department has authority over the Wind Resource Assessment Project (WRAP) and the Utility Renewable Resource Pilot Program (URRPP) under which WRAP was formed. If the Department believes additional monitoring is necessary, it can require it done under URRPP.

Many parties suggested that NSP should be directed to seek a high *accreditation* for wind generation from Mid-Continent Area Power Pool (MAPP). The goal, of course, should be for NSP to seek an *accurate* accreditation of wind generation. The Commission will not prejudge for MAP how it should accredit wind (high, low, or otherwise), but would trust that (MAPP)

will continue to examine the matter consistent with its established standards and process, including concerns for reliability and cost.

The Commission notes that MAPP has proposed to use actual experience at the Lake Benton site to adjust accreditation for this project and to set values for future projects. This method should help assure that wind accreditation is set at an appropriate level. However, to promote a strong presentation of the wind issue to MAPP, the Commission will require NSP to continue to work with MAPP to refine its accreditation process to produce the most accurate value possible for wind generation.

6. Biomass Demonstration

The IWLA and the Department recommended that NSP be required to submit a proposal to develop a biomass demonstration project in its 1995 Resource Plan. The Department suggested that the Company use the results of two feasibility studies which are currently underway, NSP's sustainable alfalfa biomass gasification study and Minnesota Power's whole tree feasibility study, to determine which technology it intends to pursue.

The Commission finds that it is reasonable to require NSP to report on the results of the feasibility studies and to present a plan and costs for a demonstration project using one of the two technologies in its 1995 Resource Plan. At that time, the Commission can review the reports and costs and determine whether it is reasonable to require NSP to proceed with a demonstration project.

7. Hydropower Development

The Department recommended that NSP file a rigorous examination of the potential for additional Canadian Hydro Purchases and the effects of those purchases on transmission requirements and water use.

The Commission believes that it is appropriate to include hydropower when considering renewable sources of power. While there is only minimal potential for additional hydropower to be developed on NSP's system, the potential for purchasing significant amounts of hydro power, from Canada or elsewhere, should be thoroughly explored. The Commission will direct the Company to include in its 1995 Resource Plan a rigorous examination of the potential for additional hydro power purchases or generation.

8. Appropriate Level of Renewables in NSP's Resource Plan

Most parties did not recommend finding an optimum level of renewables on NSP's system, though several did suggest that if NSP were to accurately state the estimated costs of renewables, its analysis may show that greater renewable development is warranted. Only ME3 proposed that the Commission order NSP to increase its proposed renewable use, i.e. 1,000 MW of wind generation by 1999.

The Commission finds that the record does not support adoption of a 1,000 MW wind requirement by 1999. The Commission's finding does not preclude wind generation projects

up to or even exceeding that level from participating in bids and winning contracts for the Company's projected capacity needs during the resource plan period.

For its part, NSP sought to have the Commission set a limit on the amount of renewables that is in the public interest:

First, the Company requested that the Commission find that its current level of renewable activity was in the public interest, with the implication that any other level (higher or lower) was not in the public interest. Such an implied finding would be very relevant to selection of NSP's next actual resource selection given the renewable preference language of Minn. Stat. § 216B.2422, Subd. 4 (1993 Supp.):

The commission shall not approve a new or refurbished nonrenewable energy facility in an integrated resource plan ... unless the utility has demonstrated that a renewable energy facility is not in the public interest.

To avoid any such implication, the Commission clarifies that in approving NSP's resource plan, as modified in this Order, it is *not* finding that a higher level of renewables is or is not in the public interest. The Commission is not required to decide that issue in a resource plan proceeding when it is not being asked to approve a new nonrenewable energy facility.

Later, after the Prairie Island legislation was adopted, NSP requested that the Commission limit the Company's renewable commitment to the amount of wind and biomass development required by that legislation. Minn. Laws 1994, Chapter 541. Specifically, the Company asked the Commission to rule that the Company would not be required to pay a "renewable avoided cost" for new renewable projects in excess of the capacity mandated by the legislation.

The Commission finds that it is premature for the Commission to consider this question also. The issue should be decided in the context of a case that raises it directly, when the record is fully developed on all sides of the issue.

9. Dispersed Generation

The Commission's Order Approving Dispersed Generation Plan in Docket E-002/RP-91-682 required NSP to submit information updating its dispersed generation plan and providing detail on the cost-effectiveness evaluation, the timing and magnitude of each project and the potential for competition in the dispersed generation market. NSP filed its report as a part of this plan.

The Department stated that NSP has adequately updated its dispersed generation plan as required by the Commission's Order. It recommended, however, that the Company consider the use of external costs in its cost/benefit analysis. It also recommended that NSP not pursue dispersed cogeneration projects outside of the bidding process.

The Commission will adopt the Department's recommendation to require the Company to use environmental costs in its cost/benefit analyses for standby/peaking dispersed generation.

ME3 raised more serious concerns. ME3 argued that NSP's dispersed generation program is heavily focussed on the development of diesel stand-by generators, which have very high environmental costs. ME3 recommended that NSP target its dispersed generation efforts to promote small-scale, high-efficiency cogeneration.

The Commission finds that although NSP's dispersed generation plan specifically consists of both standby/peaking diesel generators *and* baseload cogeneration installation, to date all of its activity has been in the standby/peaking area. To rectify this imbalance, the Commission will require the Company to include in its 1995 Resource Plan 1) specific goals for the baseload/cogeneration component of its dispersed generation plan, and 2) a discussion of how it

intends to meet those goals. In addition, the Commission finds that distributed wind generation is a promising form of dispersed generation and will require the Company to include a discussion of distributed wind generation in its 1995 Resource Plan.

10. Bidding Schedule

NSP resource plan identified the Company's future supply-side resource needs and proposed a bidding schedule, i.e. approximate dates for issuing the Requests for Proposals (RFPs), to meet those needs. The Company requested Commission approval of that bidding schedule and authority to proceed with any RFPs that may be indicated within the two-year (1993 to 1995) planning cycle.

The Department was the only party to comment specifically on NSP's bidding schedule. The Department proposed one modification to the schedule: it recommended that the Company advance the RFP issue date for the 1997 baseload RFP to 1996. The Department suggested that the proposed eight-year lead time for this first baseload RFP may be too optimistic. The revision would allow the Company an additional year to complete the process, but still permit one more Commission evaluation of the resource need (in the 1995 Resource Plan).

The Commission finds that NSP's general framework for translating identified supply-side resource needs into a bidding schedule is appropriate. The Commission, however, will direct the Company to file a revised bidding schedule making several changes to the proposed framework:

First, although the Company's next resource plan is due in 1995, it is unlikely that the Commission will review and issue an Order on that plan until well into 1996. Therefore, the Commission will authorize NSP to implement its proposed bidding schedule] through 1996 in this proceeding.

Second, the Commission will require the Company to notify the Commission if the need for an RFP is advanced due to unanticipated events, such as higher than expected load growth or the loss of current resources.

Third, the Department's recommendation to advance the proposed 1997 baseload RFP to 1996 is reasonable. Eight years represents a fairly compressed schedule for planning and developing a baseload facility. Allowing the additional year will permit more room for contingencies in the Company's first bid for baseload capacity.

Fourth, several changes must be made in NSP's bidding schedule to meet the requirements of the subsequently adopted Prairie Island legislation. For example, the amount of wind generation subject to RFP in 1994 must be increased to 100 MW with additional requirements by December 31, 2002. The Commission will require NSP to refile a bidding schedule which incorporates 1) bids for the Prairie Island wind and biomass mandates, 2) the effects of those bids on other planned solicitations, and 3) its plans for replacing Prairie Island capacity by the year 2002.⁸

E. Transmission Issues

⁸ See the discussion of the impact of the Prairie Island legislation on the contingency planning portion of the Resource Plan, below at pages 19-22.

Also: in planning to secure the required Prairie Island capacity by 2002, the Company should examine the possibility of contingent bids for the Prairie Island capacity. Contingent bids are bids which include a buyout provision in the event that the utility determines that the capacity will not be needed at the time it is scheduled to come on line. In its refiled bidding schedule, the Company should include a proposal for a contingent bid for PI replacement capacity.

Transmission lines are needed to carry electricity from wherever it is generated to wherever it is used. Inadequate transmission capacity can inhibit or stunt the use of potential alternative generation sites/sources. At the same time, it is important to know what incremental transmission costs arise due to various energy sources so that valid cost comparisons can be made. NSP is correct to note that transmission planning and resource planning have significant differences. However, it would be unwise to ignore the relationship between the two. As pointed out by the Department and the UCS, several transmission-related issues need to be evaluated to determine the cost impacts on the development of future resource needs.

Having considered the comments of the parties, the Commission believes that the following requirements will provide relevant information on NSP's transmission network in time to be taken into consideration in the Company's resource planning.

The Commission will require NSP to file its long-range transmission study with the Department and, if it identifies significant transmission additions or upgrades, with the Commission as soon as the study is completed. If no significant transmission additions or upgrades are identified, the Company will not be required to file the study with the Commission until the 1995 Resource Plan filing.

In addition, the Commission will require NSP to file with its next Resource Plan a study estimating the incremental transmission costs of developing 500 and 1,000 MW of wind generation in southern and southwestern Minnesota. The study should also examine the potential impacts and requirements on NSP's transmission system on the development of dispersed wind generation within Minnesota.

Finally, the Commission will require the Company 1) to provide data required by the Federal Energy Regulatory Commission (FERC) relative to the capability of the Company's transmission network to promote competition when it becomes available (expected mid-1994) and 2) to meet with the Department and Commission Staff to discuss transmission issues.

F. Contingency Planning

Contingency planning is a critical function of resource planning. There are several uncertainties which impact a utility's resource planning. Contingency planning examines uncertainties and allows the Company and parties to evaluate the impacts of likely future events.

NSP's contingency planning addressed several uncertainties related to the demand for and supply of electricity. The demand uncertainties discussed by NSP included both forecast and price uncertainties, including the possible passage of a \$50 per ton CO₂ tax. NSP also considered the impact of five supply- and demand-side resource uncertainties, including the early shutdown of Prairie Island (PI), the loss of other large generating units, the impact of dispersed generation, the amount of achievable DSM and the amount and availability of short-term power purchases.

The parties suggested the need to strengthen the analysis of certain contingencies addressed by NSP: the early shut down of the Prairie Island facility and the potential for federal policies to limit carbon dioxide pollution.

Parties also recommended adding analyses of certain other contingencies that the Company did not address at all. The parties requested evaluations of 1) anticipated costs of compliance with Phase II of the Clean Air Act Amendments, 2) a wider range of cost and fuel price assumptions under which renewables could provide net economic and environmental benefits, 3) the potential regulation of mercury emissions, and 4) combinations of events.

The Commission believes that many of the proposals for additional contingency evaluation have merit. However, there are both economic and practical limitations on the value of such studies, as well as on the Company's resources to perform them. A proposed contingency analysis that

will not be ordered due to these limitations is the Department's request for contingency analysis encompassing combinations of events.

Having reviewed all the parties' proposals and the recently enacted Prairie Island legislation, the Commission will require changes and additions supported by the record and which will enhance the contingency-related information available to the Commission in the Resource Plan.

Carbon Tax Contingency Planning

Several of the parties recommended that NSP be required to provide additional contingency analysis of the potential for a carbon or energy tax, perhaps in combination with other potential events.

The Company provided a contingency analysis of potential carbon and energy taxes and suggested that additional analysis or analysis of combinations of events was unwarranted.

However, in this Order the Commission has established a new cost value for wind and directed the Company to develop new values for biomass based on the most current information. Since NSP used different figures for wind and biomass in analyzing the impact of a carbon tax, its analysis is out of date and should be revised using the current values for wind and biomass.

Decline in Capacity Contingency Planning

The potential for a decline in the capacity of NSP's generation units within the planning period is significant. NSP has approximately 880 MW of coal-fired generation units that will be 35 years or older by the turn of the century. Also, the problems associated with the steam generators at Prairie Island and the potential for a decline in the capacity of those units have raised concerns.

At the same time, several of the parties expressed their concern with the Company's assumptions and estimates of the capacity retention or remaining life of both its nuclear and its large fossil fuel generation facilities.

Under the circumstances, the Commission finds that it would be prudent for NSP to have devoted more attention to this area in its Resource Plan. Specifically, the Commission will direct the Company to estimate the potential decline in capacity for each of its generation facilities. The Company should provide a full contingency scenario, including discussion of the assumptions used and the conclusions reached in its analysis. NSP should also estimate the probability of any decline in capacity and estimate the costs the Company expects to incur for repairs and replacement power and energy in its 1995 Resource Plan.

If NSP does not anticipate any decline in capacity, the Company should provide a contingency scenario under which it gradually experiences the loss of existing capacity equal to 30 percent of its total existing capacity by the end of the next planning period.

Prairie Island Shutdown Contingency Planning

The Prairie Island legislation limits the number of dry casks available for storage to seventeen, except as needed to decommission the plant. The casks may not be reused once they have been emptied. Under the intent of this legislation, the Prairie Island plant will not be permitted to operate beyond 2002, unless there exists federal or private storage outside of the state to take additional waste.

Because federal or private storage is not assured, the Commission will require the Company to assume for planning purposes that the PI plant will be forced to close in 2002. At the hearing on

this matter, the Company agreed that this was a reasonable planning assumption.⁹

Accordingly, the Company's contingency planning should include scenarios to secure replacement capacity in 2002.¹⁰ However, since there are scenarios which would either force the plant to close earlier or allow it to remain open longer, it would be appropriate for the Company to evaluate the following contingency scenarios in its 1995 resource plan:

- failure to meet the necessary conditions to receive the next four casks
- failure to meet the necessary conditions to receive the final eight casks
- operation of the plant after 2002 due to the existence of a federal or private storage facility by 2002 which would accept the Prairie Island waste

At the hearing on this matter, the Company agreed it was reasonable to assume a 2002 shutdown date for planning purposes, but argued that it should not be required to provide plans for the replacement of the Prairie Island capacity before the 1995 Resource Plan or when it submitted a report to the legislature, whichever was earlier. The Commission finds it appropriate for the Company to step up its consideration of this contingency and will direct the Company to provide revised scenario analyses and a revised bidding schedule reflecting that contingency in its 1993 Resource Plan compliance filing.

Monticello Shutdown Contingency Planning

Finally, the Prairie Island legislation limits NSP to a total of seventeen casks in the state. There is no current provision for the Company to seek casks to continue operation of the Monticello nuclear plant beyond the time its pool is full. Northern States Power stated in the Prairie Island certificate of need proceeding that its pools at Monticello will be full in 2005.

The Commission will direct the Company to file in its 1995 Resource Plan a detailed discussion of the storage situation at Monticello, including storage alternatives. If the pools are indeed projected to be full before the end of the planning period (2010), the Company should also include a contingency scenario and a replacement plan relating to the shutdown of Monticello at the time the pools are full.

Legislative Electric Energy Task Force

A legislative energy task force created by the Prairie Island legislation will be requiring the Company to file information concerning alternatives to dry cask storage at Prairie Island, a plan to phase out nuclear generation in the state, and information on a number of other items. These issues impact NSP's resource planning.

The Commission will require NSP to file all of the information that it files with the task force with the Commission, the Department and the RUD-OAG and to notice all parties to the

⁹ To provide continuing information regarding the reasonableness of assuming a 2002 shutdown date, the Commission will direct the Company to provide in its 1995 Resource Plan filing a detailed discussion of the status of both federal and private efforts to site a monitored retrievable storage facility, as well as an update on the siting and development of a permanent federal repository for nuclear waste.

¹⁰ NSP should also incorporate its plans for replacing Prairie Island capacity in its revised bidding schedule. See the Bidding Schedule discussion above at page 18.

resource plan that information has been filed, and to make that information available to parties if requested.

G. Rate Design

Rate Design is a fundamental aspect of demand-side management and resource planning. Rates can significantly impact the demand for electricity and, correspondingly, the need for future capacity.

In its Order approving and modifying NSP's 1991 Resource Plan, the Commission directed the Company to address rate design more directly in its 1993 plan, focusing on how and to what extent rate design can be used to achieve DSM goals. The Commission instructed the Company to expand its focus on rate design beyond traditional cost-based rates in order to examine other pricing schemes which may send different cost signals to customers; for example, environmental cost signals.

NSP included a lengthy Rate Design Report that discusses the theoretical basis for proper rate design and the potential for developing new and innovative rates. The Company examined the relationship between price and non-price incentives for DSM, the theoretical merit of socially-oriented rate design (including environmental adders), how NSP integrates rate design with resource planning and DSM, customer responsiveness to rates, the use of customer responsiveness in the development of rates and DSM goals, and an evaluation of alternative rate designs to achieve greater DSM. Specific rates or rate structures addressed in the report include interruptible rates, time-of-use (TOU) rates, the elimination of the customer charge, and inclining or inverted rates.

Three rate design issues warrant separate discussion: environmental adders, interruptible rates, and time-of use rates.

1. Environmental Adders

Environmental adders are sometimes advocated in order to induce utilities and/or consumers to internalize the environmental costs of producing electricity when making investment or consumption decisions. These adders, when summed with the internal costs, determine the total and marginal social costs of electricity investment, production, and consumption decisions. This approach may induce an optimal trade-off between environmental quality and other consumption of goods and services.

NSP stated that it opposed all implicit taxes, including environmental adders, that are not equally applied to its competitors. The Company argued that as competition in electric markets increases, the application of such adders will weaken NSP's relative position and will harm its shareholders as well as its captive customers. The environmental benefits of such riders may not be commensurate with the adverse effects. The Company also opposes environmental adders being imposed on the electric energy industry only.

The Commission will defer consideration of this issue at this time. The issue will likely be addressed in the Company's next general rate case with the submission of the new marginal

cost study. Once marginal internal costs have been developed, the need for environmental adders to incorporate external costs will be much clearer.

2. Time-of-Day Rates

The Department made two recommendations related to time-of-day (TOD) rates. First, the Department recommended that NSP be required to file a plan for implementing mandatory TOD rates for its large customers. Second, the Department recommended that the Company refine its TOD tariffs to better reflect the varying costs of production between on-peak and off-peak periods.

NSP urged the Commission to reject both of the Department's recommendations.

The Commission recently dealt with both of these time-of-use issues in the Company's last general rate case. The Department made these same recommendations in that forum. The Commission rejected both proposals.

The Commission finds that the record in this case provides no basis to change its earlier decisions. Accordingly, the Commission will reject the Department's proposal for the development of a plan to implement mandatory time-of-day rates for NSP's largest customers.

As to the Department's recommendation for the Company to revise its time-of-use tariffs using the marginal cost ratio method, the Commission will defer a decision on this issue until the Company's next general rate case. At this time the record is inadequately developed on this issue. In the rate case proceeding, the Company's new marginal cost study will be completed and made a part of the record in that proceeding.

3. Interruptible Rates

The Department recommended that the Commission adopt a market-based approach to setting interruptible rates and order NSP to implement this market-based approach in the Company's next rate case. The Department further recommended that the Company should be directed to develop a menu of options for interruptible customers. Finally, the Department requested that the Company be required to conduct a study of the price elasticity of demand of its interruptible customers rather than rely on a range developed from other elasticity studies.

Market Based Methodology

NSP agreed with the Department that a market-based methodology should be used for setting interruptible rates and asserted that it already uses such a methodology. However, the Company argued that the Department's methodology does not produce results which differ significantly from those of NSP.

The Commission has been generally supportive of a market-based approach to setting the price level for interruptible service, as evidenced by its decisions on interruptible rates in the Company's last general rate case. At this time, however, it is difficult to identify the specific differences between the Company's and the Department's methodologies. Moreover, the resource-planning process is not the forum for setting specific rates.

Therefore, the Commission will not adopt a specific market-based approach in this proceeding, but instead encourage both the Company and the Department to work together with an eye toward resolving this issue in the Company's next general rate case.

Menu of Interruptible Rates

The Company argued that it already offers a menu of interruptible rates, particularly after the

development of the tiered system of interruptible rates, approved by the Commission in the Company's last rate case in Docket E-002/GR-92-1185.

The Commission believes that the Company's recently approved tiered interruptible service tariffs are a *good beginning* of a menu of interruptible rates. Accordingly, while the Commission does not believe that a directive is in order, it certainly will encourage the Company to continue to develop the options of interruptible service considering system needs, as well as the needs of its interruptible customers.

Elasticity Study

The Company contended that it should not be required to conduct a time-consuming price elasticity study. NSP asserted that it knows what type of refinements improve the cost-benefit of its interruptible rates and suggested that a new price elasticity study will provide little additional benefit.

The Commission will not order the Company to conduct an elasticity study. Although an elasticity study on these customers may provide additional insight to determine appropriate rate levels, the Commission is not convinced at this time that the benefits of an elasticity study outweigh the time and expense of conducting such a study.

ORDER

1. Northern States Power Company's (NSP's or the Company's) 1993 Resource Plan is approved, subject to the modifications required hereinafter.
2. On or before November 1, 1994, NSP shall make a compliance filing. In that filing, the Company shall
 - a. replace any demand-side management (DSM) figures in its 1993 Resource Plan that have been developed by its marketing unit with figures developed by its forecasting department;
 - b. provide, after consultation with interested parties, a translation of the Commission-approved DSM goal;
 - c. file revised resource scenarios reflecting
 - 1) wind generation costs of \$1,000/kW for current cost and \$850/kW for future costs,
 - 2) updated cost estimates for whole tree and biomass generation with particular attention to the cost of biomass gasification, and
 - 3) the interim environmental costs established by the Commission in Docket No. E-999/CI-93-583;
with respect to these environmental costs, the Company shall run each scenario under the three following conditions:
 - the direct cost of resources without regard to environmental externalities
 - the direct cost plus the *minimum* values in the established ranges
 - the direct cost plus the *maximum* values in the established ranges

- 4) the projected closure of the Prairie Island generating facilities in 2002
- d. file a revised bidding schedule which reflects the Commission's approval of the Company's general framework for translating identified supply-side resource needs into a bidding schedule and incorporates the following:
 - 1) advancement of the planned 1997 baseload RFP to 1996;
 - 2) approval of an RFP for 100 MW of wind generation to be issued in 1994;
 - 3) the Commission's consideration of NSP's proposed bidding schedule through 1996;
 - 4) assurance that the Company will notify the Commission if the need for an RFP is advanced due to unanticipated events, such as higher than expected load growth or loss of current resources;
 - 5) plans for replacement of the Prairie Island capacity in 2002 and discussion of the possibility of using a contingent bid to acquire the replacement capacity;
 - 6) interim environmental cost values, new costs for wind and biomass, and bids for the Prairie Island wind and biomass mandates and their effects on other planned solicitations;
 - 7) time-frames for the additional 400 MW of mandated wind which are subject to resource plan and least cost planning requirements;
 - 8) a discussion of the 50 MW biomass mandate for 1988, including a proposed timetable and procurement strategy; and
 - 9) any other bidding schedule changes required to meet the Prairie Island legislation;
- e. report on its work with Mid-Continent Area Power Pool (MAPP) to refine MAPP's wind accreditation process to produce the most accurate value possible for wind generation;
- f. provide specific goals for the baseload/cogeneration component of its dispersed generation plan, along with a discussion of how it intends to meet those goals; and
- g. estimate the incremental transmission costs of developing 200, 500, and 1,000 MW of wind generation in southern and southwestern Minnesota, examine the potential impacts and requirements on NSP's system on the development of dispersed wind generation within Minnesota.
3. Parties shall have 60 days from the date the Company makes its compliance filing pursuant to Ordering Paragraph 2 to file comments on that filing.
4. Parties shall have 30 days after comments are filed pursuant to Ordering Paragraph 3 to respond to those comments.
5. In its 1995 Resource Plan filing, NSP shall
 - a. continue to refine its integration mechanism, with particular attention to demand-side goals;

- b. adopt the assumptions used by its forecasting department for purposes of resource planning;
- c. prepare a comprehensive DSM goal extending through the year 2010, using its integrated scenarios to optimize the goal;
- d. discuss where and why the DSM goal is different from the 1991 goal;
- e. show the effect of different forecasts and avoided supply costs on the DSM goal;
- f. prepare contingency scenarios that assume achievement of 70, 85 and 110 percent of the DSM goal;
- g. include a report on how the issues of persistence and total DSM program costs are addressed in the CIP process, including a discussion of any Department decisions on these issues;
- h. report on the results of whole tree and biomass gasification feasibility studies and propose a plan and costs for a demonstration project using one of the two technologies;
- i. provide a rigorous examination of the potential for additional hydro purchases or generation;
- j. use environmental costs in its cost/benefit analyses for standby/peaking dispersed generation;
- k. revise its cost/benefit analysis for standby/peaking dispersed generation using environmental costs;
- l. provide a discussion of distributed wind generation;
- m. include the long-range transmission study that the Company filed with the Department pursuant to Ordering Paragraph 6;
- n. estimate the potential decline in capacity for each of its generation facilities; if the Company anticipates no potential decline, the Company shall file a contingency scenario in which it gradually experiences the loss of existing capacity equal to 30 percent of its total capacity by the year 2010;
- o. evaluate its anticipated costs of compliance with Phase II of the Clean Air Act Amendments and discuss its efforts to comply with Phase I of the Amendments including:
 - the Company's plan for compliance
 - the costs of compliance
 - the affected units
 - the contingencies or alternatives for compliance it has evaluated
 - how the requirements and/or administration of the Act by the EPA has changed the program
 - the Company's efforts to comply with the program;
- p. use no environmental values other than the Commission's interim values for environmental costs adopted in Docket No. E-999/CI-93-583, with the clarification that if the Commission subsequently adopts permanent values, those permanent

values should be used;

- q. discuss low-cost risk mitigation strategies against future regulation of CO₂ or other greenhouse gasses;
- r. provide an explicit analysis of non-environmental externalities; report on the results of its discussions with the Department and other interested parties regarding the issue of non-environmental cost valuation of net job creation; incorporate any agreed upon methods for quantifying non-environmental costs;
- s. provide a detailed discussion of status of both federal and private efforts to site a monitored retrievable storage facility, as well as an update on the siting and development of a permanent federal repository for nuclear waste;
- t. evaluate the following contingency scenarios:

- failure to meet the conditions required by the Prairie Island legislation to receive the next four casks
 - failure to meet the necessary conditions imposed by that legislation to receive the final eight casks
 - operation of the plant after 2002 due to the existence of a federal or private storage facility by 2002 which would accept the Prairie Island waste; and
- u. discuss in detail the spent fuel storage situation at the Monticello nuclear plant; if the Company expects to run out of storage capacity prior to the end of the planning period, it should include capacity replacement plans for Monticello.
 - v. provide a revised carbon tax contingency analysis using the values for wind adopted in Ordering Paragraph 2,c,1 and updated biomass values developed pursuant to Ordering Paragraph 2,c,2;
6. Upon completion of its long-range transmission study, NSP shall file it with the Department and, if the study demonstrates the need for significant near-term additions or upgrades, with the Commission.
 7. Before filing its next resource plan, NSP shall discuss the issue of non-environmental cost valuation of net job creation with the Department and other interested parties.
 8. NSP's plan to issue an RFP for 100 MW of wind generation in 1994 is approved. Before issuing the RFP, however, the Company shall attempt to reach agreement on the terms of the RFP with interested parties; at a minimum, the Department, the RUD-OAG and the IWLA.

The parties are encouraged to discuss the following issues surrounding the solicitation for 100 MW of wind:

- a. What are the certificate of need implications for 100 MW of wind generation? Given that this amount of wind generation was mandated by the legislature, are there procedures available to avoid or expedite certificate of need?
 - b. Does NSP intend to provide the site and the interconnection, or designate a preferred site for this 100 MW of wind generation? If NSP proposes to provide a site, how would costs for an alternative site be compared to the Company's site?
 - c. What, if any, are the transmission constraints relating to this development of 100 MW of wind generation? What will be the constraints after this 100 MW are developed?
9. NSP shall continue to work with MAPP to refine its wind accreditation process to produce the most accurate value possible for wind generation.
 10. NSP and the Department are hereby encouraged to work together to resolve market-based interruptible pricing issues for presentation in the next general rate case.
 11. NSP is hereby encouraged to continue developing its menu of interruptible rates, considering both its system needs and the needs of its customers.
 12. Consideration of the Department's marginal cost pricing method for time-of-use rates is deferred to the Company's next general rate case.

13. NSP shall file with the Commission, the Department and the OAG all information filed with the legislative electric energy task force. To the extent that information filed at the legislature has already been filed with the Commission, the Company may incorporate that information by reference.

In addition, the Company shall give notice to all other parties that information has been filed and provide that information to other parties on request.

14. This Order shall become effective immediately.

BY ORDER OF THE COMMISSION

Burl W. Haar
Executive Secretary

(S E A L)