BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

Barbara Beerhalter	Chair
Cynthia A. Kitlinski	Commissioner
Norma McKanna	Commissioner
Robert J. O'Keefe	Commissioner
Darrel L. Peterson	Commissioner

In the Matter of the Implementation of an Energy Conservation Program for Northern States Power Company (Electric Utility)

ISSUE DATE: January 27, 1988

DOCKET NO. E-002/M-87-234

ORDER APPROVING NORTHERN STATES POWER COMPANY'S (ELECTRIC UTILITY) CONSERVATION IMPROVEMENT PROGRAM AND REQUIRING NEW PROJECTS AND INFORMATIONAL FILINGS

PROCEDURAL HISTORY

On May 1, 1987, Northern States Power Company, Electric Utility, (NSP or the Company) filed its Conservation Improvement Program (CIP) with the Minnesota Public Utilities Commission (Commission), pursuant to the provisions of Minn. Rules, part 7840.0500. Notice of filing was given to participants in NSP's last general rate case and participants in NSP's two previous CIP cases, pursuant to the provisions of Minn. Rules, part 7840.0800.

On May 13, 1987, NSP filed revisions to its CIP filing. The Department of Public Service (DPS) filed general comments relating to all utilities' CIP proposals on June 1, 1987 and comments specific to NSP's proposal on the same date.

On June 12, 1987, the Commission issued its Order Regarding Filing Deficiencies and Requiring Additional Information, which required NSP to provide certain supplemental information on or before July 6, 1987.

On June 15, 1987, NSP filed a response to comments.

On July 6, 1987, NSP filed additional information as required in the Commission's June 12, 1987 Order.

On July 9, 1987, the DPS requested copies of working papers from NSP.

On July 21, 1987, the DPS submitted comments on NSP's compliance filing.

On August 20, 1987, the Commission met to consider NSP's proposed CIP.

On August 24, 1987, NSP responded to the DPS's information request of July 9, 1987.

On September 18, 1987, NSP requested that the funding level for the commercial end use survey project be increased to $300,000.

FINDINGS AND CONCLUSIONS

The Commission received no requests for a contested case hearing on NSP's proposed CIP and will therefore resolve this case based on the written record. No participants opposed NSP's proposed projects or proposed additional projects that were not incorporated by NSP into its proposed program.

The Company's proposal was to continue all projects authorized for its 1986-87 program and to add six new ones. This Order will deal in turn with existing projects, new projects, the adequacy of the program as a whole, and reporting and evaluation procedures.

NSP'S EXISTING PROJECTS

The first issue is whether the existing projects proposed by the Company for continuation should be approved, modified or rejected.

NSP proposed that all of its existing conservation projects be continued for another year at the following budget amounts:

Chiller Rebate	$290,000
Community Energy Council Weatherization Program	$100,000
Good Cents Home	$161,360
Rooftop Rebate	$299,900
Cool Storage	$635,000
Appliance Rebate	$1,436,555
Lighting Efficiency	$960,350
Motor Rebate	$121,000

The Commission has reviewed the proposed projects and status reports. A summary of the Commission-approved projects is attached as an Appendix to this Order. The DPS recommended unqualified approval of these projects. The Commission finds that these projects are likely to provide long-run benefits in excess of the cost of the program to NSP. Further, the projects provide customers with needed conservation information and incentives. This helps customers to make

prudent investment decisions regarding energy conservation investments. The Commission concludes that it is reasonable and appropriate that these projects be continued and they will be approved. The Commission is concerned, however, about the relatively high administrative costs of the lighting efficiency project and will order the Company to examine possible means of reducing them.

NSP'S PROPOSED NEW PROJECTS

The second issue is whether the new projects proposed by the Company should be approved, modified or rejected.

1. Commercial and Industrial (C & I) Audit Services

This project was operated as a pilot project of 553 audits through October, 1986. The Commission disapproved this project in last year's CIP Order because of its concern over the project's per audit cost and the cost effectiveness of the project. The Commission noted that NSP would be submitting an evaluation of the project and stated that it would reexamine this project after the evaluation was submitted.

The evaluation indicated that the per audit cost has been reduced from $2,000 to $750. The evaluation also shows that the project is expected to save $2,000 to $3,000 per customer, indicating that the project is expected to be cost effective. The DPS recommended approval.

The Commission will approve this project because it appears to be a cost effective conservation project. Further, this project is appropriate because it will address the full range of energy uses of all C&I customers. This project will complement the other C&I conservation projects which are targeted to specific end uses because audit participants may be referred to those other projects.

2. Commercial and Industrial End Use Survey

The DPS recommended that this project be approved because the information developed from it will be useful in identifying areas of potential conservation to assist in future project development. The Commission agrees with the DPS and therefore this project will be approved.

This project's cost effectiveness cannot be determined at this time. However, the Commission finds that the project is necessary to help NSP identify and deliver cost-effective conservation projects to commercial customers.

3. Residential Audit Services

This project is an extension of the existing RCS program, which is required under federal law. It offers free audit services rather than requiring a payment. A free audit may be more effective in reaching low income household and renters. The DPS recommended approval

of this project because it meets a significant need by providing information to residential customers. The Commission agrees with the DPS.

The expected cost effectiveness of the alternative audits was not directly analyzed. However, a study of the RCS program by Oak Ridge National Lab and NSP indicated that RCS is economically attractive to participants and economically neutral to the NSP service territory. Further, the alternative audits are projected to cause the same estimated annual savings as RCS audits at a significantly lower cost. Therefore, the Residential Audit Service will be approved.

4. Time-of-Day (TOD) Rates

In NSP's last electric rate case Northern States Power Company, Docket No. E002/GR-85-558 (June 2, 1986), the Commission ordered NSP to work with the DPS and develop a project to increase customer participation in the Company's TOD rates. This proposed project is the result of that work. The DPS recommended approval because the project will shift consumption from on-peak to off-peak periods. The Commission agrees with the DPS and notes that this project carries out the Commission's Order. Further, NSP's filing indicated that NSP expects the project will be cost effective from the perspective of the utility participants and utility ratepayers. This project will be approved.

5. City of Minneapolis Projects

A. Low Income Households

The DPS recommended that this project be approved because it shows promise of achieving worthwhile electricity conservation results and uses an approach similar to a successful City of Minneapolis project. Also, this conservation project is directed at low income customers. The Commission agrees with the DPS that this is an appropriate CIP project. However, the proposed budget will be reduced by $20,000 to eliminate unnecessary expenditures. The City proposed spending $20,000 for two "displays" and $16,000 for handouts. The Commission will require that the total budget for both displays and handouts be set at $16,000 and that the City use existing materials wherever possible.

B. Small Business Non-Profit Project

The DPS recommended that this project be approved because it is targeted to a group of customers that traditionally have not been served by conservation programs. The Commission will approve this project because it represents an efficient way to market and deliver NSP's Quick Check Audit program and because the NEeds Assessment portion of the project will complement NSP's end use study.

ADEQUACY OF NSP'S PROGRAM

The third issue is whether the projects discussed above constitute an adequate program.

The Minnesota Court of Appeals in Hanna Mining Company v. Minnesota Public Utilities Commission, 375 N.W.2d 550 (1985) ordered the Commission to adopt interpretive rules for determining what constitutes a "significant investment" as used in Minn. Stat. Section 216B.241, subd. 2 (1986). In response to the Court's order, the Commission has begun rulemaking proceedings to adopt interpretive rules for conservation improvement programs, including a rule defining "significant investment." (See MPUC Docket No. G, E-999/R-85-847.) However, the Commission does not interpret the Court's decision to prohibit consideration of applications by utilities for approval of conservation programs under the criteria set forth in the plain language of the statute while the rulemaking process takes place. To read the Court's decision otherwise would delay implementation of conservation programs that the Legislature has directed utilities to undertake. See Minn. Stat. Section 216B.241 (1986). In order to carry out the Legislature's directives concerning conservation programs by utilities, the Commission will proceed under its procedural rules currently in effect. It will apply the facts to the statutory law in evaluating programs proposed by utilities until such time as interpretive rules are adopted.

The Commission finds that NSP's proposed program is inadequate in only one respect.

The Commission believes that there are additional conservation projects which merit development and review. The Commission will require NSP to research the potential for offering the conservation projects discussed below. NSP will be required to report the results of its research and develop and propose implementation of appropriate projects in next year's CIP filing.

a. Heat Pump Water Heater

These water heaters use approximately one half as much electricity as electric resistance water heaters, yet they account for only a minimal percentage of the new water heaters sold annually.

b. Sunscreens

Sunscreens can reduce the amount of solar heat gain by up to 70%.

c. Water Heating Efficiency Project

An additional water heating project could be developed to shift electric water heating to off-peak or to make existing water heaters more efficient.

NSP will be required to report on the economic and reliability aspects of these possible projects and to develop a promotional project if there is a reasonable likelihood that such a project would be cost effective.

The Commission has evaluated the program as proposed by the Company and modified by the Commission in light of the requirements of Minn. Stat. Section 216B.241, subd. 2 (1986). That statute requires utilities subject to its provisions to make significant investments in and expenditures for energy conservation improvements. It also requires the utilities to give special consideration to the needs of renters and low-income people in developing energy conservation programs.

The Commission concludes that NSP's program, as modified by the Commission, meets the statutory requirements. The indicated level of investment and expenditure will benefit approximately 39,505 customers, of whom approximately 7,345 are expected to be low-income persons or renters. The Company's financial commitment will be approximately $5,560,565 which represents 0.5% of its total 1986 retail sales revenue and $6.10 per Minnesota customer. The Commission is aware of the tentative and subjective nature of judging, at this point, the significance of NSP's investment and expenditure. Cost effectiveness and the availability of other community resources for energy conservation can affect the program's significance. Reliable data on these and similar issues will not be available at least until the current projects are well under way. Evaluating the program as a whole, however, the Commission concludes that it appears to constitute a significant investment in and expenditure for energy conservation improvements.

Since the program also gives special consideration to the needs of renters and low-income persons, as required by statute, the Commission concludes that it meets the statutory requirements.

The Commission concludes that the projects described above constitute an adequate program for NSP for 1987-88, assuming that cost estimates, numbers of participants, and other assumptions are reasonably accurate. The projects constitute necessary and reasonable efforts by NSP to carry out its CIP responsibility.

In making these findings and conclusions on NSP's budget for 1987-88, the Commission is not approving specific budget or project detail for the second and succeeding years of any projects. Multi-year projects will be reviewed for appropriate changes in subsequent years.

OTHER MAJOR PROBLEMS TO ADDRESS THIS YEAR

The fourth issue is whether there are remaining problems which must be addressed this year.

Interim Status Reports

In order to monitor the progress by NSP in implementing the projects approved herein, the Commission will require the Company to file interim status reports on each of the projects. These reports will provide an opportunity to make adjustments in the projects, if necessary. The reports will be due within 60 days of the date of this Order and shall contain, at a minimum, the following information:

1. the number of participants compared to projected participation levels;

2. dollar expenditures compared to the total projected budget;

3. the number of conservation improvements completed;

4. a discussion of unanticipated barriers to participation and strategies to remove such barriers; and

5. a discussion of any unforeseen project problems or project changes.

Well Water Chiller Environmental Concern

In last year's CIP Order, Northern States Power, Docket No. E-002/M-86-248 (October 7, 1986), regarding the Well Water Chiller project, NSP was required to:

> make or maintain contact with the Minnesota Pollution Control Agency and the Environmental Quality Board, to ensure against adverse environmental effects resulting from the project.

NSP sent a letter to these agencies on July 7, 1987. The Commission finds that this contact inadequately addressed the concerns of the Commission. The DPS reviewed NSP's letter and offered to make additional contact with these agencies. The Commission finds that it is appropriate for the DPS to make the contact with these agencies to ensure that there are no adverse environmental effects from the well water chiller project.

Residential Audit Services

NSP has agreed to design and file promotional material for the Residential Audit Services that clearly identifies and differentiates all of its program audit services. The Commission finds that it is appropriate for NSP to develop this material so that customers can make informed decisions when selecting audit services.

CONSIDERATIONS FOR FUTURE FILINGS

The fifth issue is whether any additional restrictions and conditions should be placed on NSP's 1988-89 CIP filing, pursuant to the provisions of Minn. Rules, part 7840.0500, item L.

Timing and Content of Evaluation Reports

NSP proposed to incorporate each project's evaluation with the annual May 1 CIP filing. The Commission finds that this is an acceptable alternative to filing expected completion dates of evaluation reports in annual CIP filings.

The Commission will approve this procedure because it will provide an opportunity for effective evaluation of CIP projects at the time of the annual CIP review.

Cost Effectiveness Tests

The method of determining cost effectiveness has received considerable attention from CIP respondents. The Commission also has a keen interest in this area because of its responsibility to determine which costs and benefits are relevant in evaluating cost effectiveness. The Commission encourages the DPS and NSP to continue their discussions on this matter. Further, to ensure the availability of the information needed to evaluate cost effectiveness, the Commission will require NSP to include a description of methodology used with any cost-benefit analysis so that the costs

and benefits used can be clearly understood by the Commission and other interested parties, and to present cost-benefit data in a clear tabular form, if possible.

Major End Use Tables

Major end use tables can be used to determine areas where conservation should be attempted. For tables to be of use, they need to include a discussion and quantification, if possible, of customer class energy consumption and peak demand, broken down by major end uses and major end use inefficiencies. NSP does include tables on Major Electric End Uses for the Residential and Commercial/Industrial Classes. However, peak demand and end use inefficiency figures are not included.

The Commission will require NSP to file this additional information concerning customer class peak demand, broken down by major end use, in next year's CIP filing.

ORDER

1. The Minnesota Public Utilities Commission hereby approves the 1987-88 Conservation Improvement Program for Northern States Power Company, Electric Utility, as described and modified herein. A total budget of $5,560,565 is approved. The program shall include the following projects:

Project Name	Budget
Chiller Rebate	$ 290,000
Community Energy Council Weatherization Program	$ 100,000
Good Cents Home	$ 161,360
Rooftop Rebate	$ 299,900
Cool Storage	$ 635,000
Appliance Rebate	$1,436,555
Lighting Efficiency	$ 960,350
Motor Rebate	$ 121,000
Commercial and Industrial Audit	
Commercial and Industrial Survey	$ 407,500
Residential Audit Services	
Time of Day Rates	$ 300,000
City of Mpls. Projects	$ 614,000
Low Income Households	$ 102,000
Small Bus. Non-Profit, Tax Exempt	$ 84,500
	$ 48,400
TOTAL PROGRAM	$5,560,565

2. Within 60 days of the date of this Order, Northern States Power shall submit an interim status report for each project. The report shall contain, at a minimum, the following information:

   a. the number of participants compared to projected participation levels;

   b. dollar expenditures compared to the total projected budget;

   c. the number of conservation improvements completed;

   d. a discussion of unanticipated barriers to participation and strategies to remove such barriers; and

   e. a discussion of any unforeseen project problems or project changes.

3. Northern States Power's proposal to include, as a part of the May 1 annual CIP filings, an evaluation for each project which has been in effect over one year is approved.

4. In its next annual CIP filing, Northern States Power shall report on the economic and technical feasibility of a heat pump water heater project, a sunscreen project and a water heater efficiency project as discussed herein.

5. The Department of Public Service shall contact the Minnesota Pollution Control Agency and the Environmental Quality Board to ensure against adverse environmental effects from the well water chiller project.

6. Northern States Power shall design and submit to the Commission promotional material for the Residential Audit Services project that clearly identifies and differentiates all of the audit services offered by NSP.

7. In its next annual CIP filing, Northern States Power shall include a description of the methodology used to determine the cost effectiveness of each project so that the costs and benefits used can be clearly understood by the Commission and other interested parties. Northern States Power shall present the cost-benefit data in clear tabular form.

8. In its next annual CIP filing, Northern States Power shall file additional information concerning customer class peak demand, broken down by major end use, as discussed herein.

9. Northern States Power shall file 13 copies of all documents required by this Order with the Commission. Northern States Power shall also provide one copy each to the DPS and any other person requesting one. The DPS and other interested persons will have 15 days to file comments on the Company's filings with the Commission.

10. To the extent practicable, customers participating in Northern States Power's CIP projects shall have a free choice of the device, method or material, and seller, installer, or contractor for the CIP improvement.

11. This Order shall become effective immediately.

BY ORDER OF THE COMMISSION

Mary Ellen Hennen
Executive Secretary

(S E A L)

Appendix

SUMMARY OF COMMISSION APPROVED CONSERVATION IMPROVEMENT PROJECTS FOR NORTHERN STATES POWER FOR 1987-88
Docket No. E002/M-87-234

A. Existing Projects

1. CHILLER REBATE

General Purpose - The purpose of this project is to offer rebates as an incentive to customers to purchase more efficient chiller equipment for air conditioning and process cooling applications.

Steps Involved - NSP intends to work with trade allies, architect/engineering firms, and contractors to help make customers aware of the availability of high efficiency chillers. NSP representatives will contact customers to explain the program and to help them obtain rebates.

Objectives for 1987-88 - 30 rebates are anticipated.

Anticipated Savings - NSP estimates that the program will reduce peak demand from 433 Kw to 1,319 Kw and will yield annual energy savings of about 1,000 MWH per year. The resultant effect on utility ratepayers ranges from $30 to $280 Per Kw net benefit.

Budget

Rebates	$200,000
Administration	72,000
Testing	18,000
	290,000

2. COMMUNITY ENERGY COUNCIL (CEC) RESIDENTIAL WEATHERIZATION

General Purpose - The purpose of this project is to provide an alternative method of delivery for conservation information using the Residential Conservation Service (RCS) audit.

Steps Involved - This project is operated in eleven communities that have established a weatherization program under the Governor's Community Energy Program. The CEC provides workshops, lectures, slides, and weatherization demonstrations. It promotes the RCS audits and distributes a package of weatherization materials worth approximately $20. Up to $30 will be paid for weatherization materials installed by an auditor. NSP will train auditors and provide a $15 water heater blanket where recommended by the auditor.

Objectives for 1987-88 - The objectives are to provide 716 Audits and weatherization materials for 1,241 Households.

Anticipated Savings - The costs of the audits performed by the communities is comparable to NSP's cost of the RCS promotion. NSP estimates that 15-20% of the program participants are low income homeowners or were renters. NSP expects CEC audits to be as cost effective as RCS audits.

Oak Ridge National Laboratory studied RCS audits in 1983 and found them to be economically attractive to participants and neutral to the NSP service territory.

The average audited customers saves 5 MBTU per year.

Budget NSP proposed a budget of $100,000 for this project.

3. GOOD CENTS HOME

General Purpose - This project is directed at customers who are building new, electrically-heated dwellings. It encourages them to use cost-effective construction methods.

Steps Involved - NSP works with builders, developers, owners, and realtors to encourage development of energy efficient dwellings. NSP offers $1,000 to builders who erect housing which meets Good Cents Home performance standards and agree to open such housing to the public for two weeks. NSP participates in home and energy shows to acquaint residential customers with the program. Eventually, NSP customer service representatives will be a source of leads for customers choosing the Good Cents Home Program.

Objectives for 1987-88 - The objectives of this project are to provide service to 180 single family units and 360 multi-family units.

Anticipated Savings - NSP hopes to achieve a 60% penetration of electrically heated dwellings constructed in Minnesota. Good Cents thermal performance standards are designed to result in a home that uses 25% less energy than a home built to Minnesota Energy Code requirements. Simple payback is expected to be 5-6 years.

Good Cents is designed to slow the growth of new electric heating load. If homes are air-conditioned, there may be a small reduction in summer peak. However, lower load requirements in winter may permit greater sales to a winter peaking utility in exchange for a corresponding sale to NSP in the summer season. Such a diversity exchange could avoid the need for construction of base load generating plants.

Budget

Advertising & Promotion	$ 7,200	
Material & Licensing		8,160
Labor & Expenses (Gen Office)	15,000	

Division Labor	131,000
	$161,360

4. ROOFTOP AIR CONDITIONER REBATE

General Purpose - The purpose of this project is to encourage small to mid-sized commercial and industrial customers to install high efficiency rooftop air conditioning units.

Steps Involved - NSP contacts trade allies to make them aware of the program so customers can participate if they choose. NSP personnel promote the program through customer contacts.

Objectives for 1987-88 - The objectives of this project are to provide 371 rebates

Anticipated Savings - Without a rebate, a customer who purchases a unit has a nine year payback. Rebates will shorten the payback period.

Budget

Rebates	$220,300
Administration	33,000
Promotion	33,000
Testing	13,600
	$299,900

5. COOL STORAGE

General Purpose - The purpose of this project is to provide rebates to encourage customers to install cool storage technology to operate air-conditioning units. Cool storage produces and stores chilled water or ice during low electric demand periods. The stored water or ice is used for cooling during high demand periods.

Steps Involved - NSP works primarily with architect/engineering firms who design commercial buildings. NSP marketing personnel explain the general impact and benefits of cool storage to customers and refer them to vendors. NSP hopes to implement cool storage at 12 locations per year. Each year, there are about 50 chiller installations at new buildings in NSP's Minnesota territory.

Objectives for 1987-88 - The objectives of this project are to provide 12 rebates.

Anticipated Savings - With rebates, payback for the customer is expected to be one to three years. The average rebate will be approximately $40,000 per installation. To qualify for a full rebate, the cool storage system must reduce peak demand by approximately .76 Kw/ton of cooling requirement.

Budget

Rebates	$460,000
Administration	85,000
Engineering Studies	65,000
Promotion	25,000
	$635,000

6. APPLIANCE REBATE PROGRAM

General Purpose - The purpose of this project is to influence consumers to purchase more efficient electric appliances by calling attention to efficient models and by lowering customers' costs of purchasing efficient appliances.

Steps Involved - NSP markets the program through appliance dealers, heating and air conditioning contractors, trade allies, and bill inserts. The customer must file for each rebate.

Objectives for 1987-88 - The objectives of this project are to provide 20,000 rebates.

Anticipated Savings - NSP pays nominal rebates ($15-$35} for refrigerators, freezers and water heaters because paybacks are less than three years. Larger rebates ($15-$400) are paid for air conditioners to make the more efficient appliances economical for buyers.

Budget

Rebates	$1,136,555
Administration	300,000
	$1,436,555

7. LIGHTING EFFICIENCY PROJECT

General Purpose - The purpose of this project is to encourage commercial and industrial customers to purchase high efficiency lighting equipment. NSP proposed to include rebates for screw in fluorescent lamps for 1987-88. NSP also proposed to extend the rebate program to farm customers.

Steps Involved - Eligible customers have limited awareness of lighting conservation and of the NSP rebate program. Consequently, NSP cooperates with equipment manufacturers and distributors to promote the program. Lighting surveys are used to educate customers on lighting standards and lighting system designs. Personal contacts by NSP representatives and direct mail will be used to promote the project with selected target groups such as schools or office buildings.

Objectives for 1987-88 - The objectives are to provide the following number of rebates:

Fluorescent lamp rebates	273
Fluorescent ballast rebates	143
System Conversion rebates	808

Anticipated Savings - Without a rebate, if lamps are replaced when they normally fail, the customer's payback will be less than two years.

If lamps are replaced before failure, paybacks are one and one-half to six years without a rebate. Rebates reduce these paybacks to less than one year.

Without a rebate, paybacks for replacement ballasts range from two to ten years, depending on rate class and hours of operation. Group reballasting yields a payback period of about four times as long. Normal replacement with rebate reduces the payback to four years, if the customer operates the lamp and ballast more than 2,000 hours annually.

Budget

Rebates	$655,350
Administration	305,000
	$960,350

8. MOTOR EFFICIENCY

General Purpose - The purpose of this project is to offer rebates to commercial, industrial and farm customers for purchases of high efficiency motors.

Steps involved - NSP plans to market the rebate program through motor distributors and customer contact.

Objectives for 1987-88 - In 1986, only 10,000 horsepower of a budgeted 23,000 hp was influenced by the NSP rebate program, yet actual expenses were $146,800 compared to the 1986 budget of $114,000. NSP hopes to increase participation by:

1. increasing the number of NEMA nominal efficiency curves; 2. expanding the horsepower range of eligible motors; and by
3. offering a $0.50/hp incentive to distributors to stock efficient motors.

Anticipated Savings - NSP stated that customers must judge whether or not payback periods will meet their criteria. The customer must consider avoided electric costs, NSP's rebate, and capital expense.

Budget

New & Failed Motors @ $2/hp		$ 34,000
Retrofit @ $7/hp		42,000
Administration		33,000
Motor Distributor Incentive	12,000	
		121,000

B. New Projects

9. COMMERCIAL AND INDUSTRIAL AUDIT

General Purpose - NSP proposed this project as a follow-up to the C&I Energy Check-up. This project consists of two types of audits that help identify and promote energy savings. Both types will be targeted to demand-billed customers with average monthly peak demands of up to 1,000 Kw.

The Energy Check-up is geared for customers using 25-1,000 Kw. A computer-assisted audit software system is used for the Energy Check-up.

The minimum charge for the Energy Check-up is $100.00. The charge is to encourage customers to use the Quick-Check when appropriate. The less detailed Quick-Check Audit will be offered to customers with average monthly peak demand loads of less than 25 Kw.

For non-demand-billed customers using less than 2,500 Kwh monthly, NSP will provide a generic energy conservation booklet.

Steps Involved - The Check-ups will be promoted through direct mail and telephone and personal solicitations. Direct mail will be targeted to user groups. Chain stores and trade organizations will be contacted to promote the plans.

Objectives for 1987-88 - The objectives are to Provide:

250 Check-ups;
800 Quick-Check Audits; and
5,000 Booklets.

Anticipated Savings - NSP estimated that Check-up participant's average annual cost savings from measures planned and taken are $2,000 to $3,000. The average price of the audit for the participant is $115.00. The Quick-Check audit and booklet distribution are more cost effective because both are free to customers. NSP's evaluation report, filed December 10, 1986, estimates savings of 20.5 million kwh for the 553 Check-ups performed. Also, NSP states that there is a potential benefit to non-participants well in excess of actual program costs. The Quick-Check and booklet distribution should be more cost effective due to lower costs.

Budget

Energy Check-ups		$187,500
Quick-Check Audit		200,000
Distribution of Booklet	20,000	
		$407,500

10. COMMERCIAL AND INDUSTRIAL END USE STUDY

General Purpose - The purpose of this project is to collect end-use data from commercial and industrial customers. The information will be used to identify areas of potential conservation to assist in future project development.

Steps Involved - The survey process will be a phone/mail/phone design, with site visits to industrial customers over 1 MW in size. The survey sample size for this new project has not been determined.

Anticipated Savings - The project will have an indirect effect on NSP's peak demand and average consumption.

Budget - Survey Research Design, Questionnaire Design, Survey Administration, Customer Account Aggregation, Data Base Development and Sampling Procedure will cost a total of $300,000 for the 1987-88 CIP year. The study will be performed every three years. Each succeeding cycle will cost $225,000.

11. RESIDENTIAL AUDIT SERVICES

General Purpose - NSP proposed this project as an extension of the Residential Conservation Service (RCS) audit. Several types of audits rather than just the RCS audit will be provided.

The Do-It-Yourself Audit utilizes a "Quick Energy Savings Test" (QUEST). It is a questionnaire based program that provides customers with energy cost and savings information.

The Walk-Through Audit includes an on-site visit to analyze customer energy usage and provide a checklist of recommendations showing savings, cost, and payback. The program also includes the standard RCS audit.

Steps Involved - For the Do-It-Yourself Audit, the customer completes the QUEST survey and returns it to NSP. NSP performs an analysis by computer. A 6-8 page report is sent to the customer. The report includes illustrations of the customer's energy use compared to a high- and a low-energy user; illustrations of customer energy end use; appropriate no- or low-cost conservation practices; costs and projected savings of other measures; and conservation information.

The Walk-Through Audit includes an on-site visit. The project will be marketed through direct mail.

Objectives for 1987-88 - The objectives are to provide the following:

QUEST Audits	4,510	
Walk-Through Audit	1,825	
RCS Audits		1,662

Anticipated Savings - Estimated annual space heating savings are 5 MBTUs per audited household for the RCS, Do-It-Yourself, and Walk-Through Audit. The percentage of audit offerings to low income households and renters is equal to the percent of low income households and renters in NSP's customer base. Because the QUEST and Walk-Through Audit programs are free, they may be more attractive to low-income households and renters.

Budget	RCS	Residential Audit Services	
Labor	$243,750	$ 78,000	
Administration	60,000	38,700	
Promotion	152,250	41,300	
Total	$456,000	$158,000	$614,000

12. TIME-OF-DAY RATES

General Purpose - The purpose of this project is to convert General Service customers to time-of-day (TOD) rate schedules. This is to encourage customers to shift their energy use from peak to off-peak periods.

Steps Involved - NSP will analyze customers already on TOD rates to determine characteristics that could be used to identify additional customers. NSP will establish target customers who might benefit from TOD rates. Next, NSP will analyze the potential customer's energy use to determine if the customer's bill could be reduced on TOD rates.

Objectives for 1987-88 - The object of this project is to convert 165 customers to TOD rates.

Anticipated Savings - It is anticipated that 154 Kw would be permanently shifted to the off peak period

Budget

Labor and Overheads	$102,000

13. CITY OF MINNEAPOLIS PROJECTS

13A. Low Income Households

General Purpose - The purpose of this project is to provide electrical energy conservation education to all Minneapolis fuel assistance recipients who are NSP customers. This project will provide intensive energy conservation and budgeting assistance to households with high electricity use.

Steps Involved - Energy assistance recipients with monthly electric bills of $40 or more will be identified at intake. These clients would attend an educational workshop, conduct a survey of electrical appliances in their homes, receive an on-site audit/education visit, and go on the NSP budget plan. Clients who complete the survey and go on the budget plan receive a $10 incentive. Clients will receive follow-up budget counseling and continuing reinforcement of the educational plan.

In a limited number of cases where it appears that a client may continue to use an unnecessary and very inefficient appliance, the program will "buy-back" up to 50 refrigerators, freezers, air conditioners, or space heaters.

Objectives for 1987-88 - The objective is to provide service to 800 high users in first year. Approximately 200 will be renters.

Anticipated Savings - A 10% reduction in electricity use is anticipated. Also, it is expected that the program will improve bill payment patterns.

Budget

Displays & Handouts		$16,000
Workshops, Audits, Follow-up	48,500	
Incentives & Research		20,000
		$84,500

13B. Pilot Program for Small Businesses, Non-Profits, and Tax-Exempt Organizations

General Purpose - The purpose of this project is to offer energy audits and related education to Minneapolis small businesses and non-profit organizations. The project will facilitate installation of energy conservation measures in these organizations and businesses. The project will examine ownership/leasing and energy use patterns to determine the most effective financing options for installation of conservation measures.

Steps Involved - Direct mail and door-to-door marketing will be used to identify buildings with the greatest potential for savings. An educational meeting will be held to elicit participation and schedule audits. The audits may be either NSP's Quick-Check Audit or the Energy Check-up.

Audits include a consultation on those improvements most appropriate for a client's building. Financing options will be researched.

Objectives for 1987 88 - The objectives are to administer 200 Quick-Check audits.

Anticipated Savings - Average savings are anticipated to be 8% of the energy bills of participants.

Budget

Audits	$28,000
Needs Assessment	15,000
Inspections	5,400

$48,400