

G-008/M-88-255 APPROVING CONSERVATION IMPROVEMENT PROGRAM AND
REQUIRING ADDITIONAL FILINGS

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 Minnegasco, Inc.

ISSUE DATE: September 19, 1988

DOCKET NO. G-008/M-88-255

ORDER APPROVING CONSERVATION IMPROVEMENT PROGRAM AND REQUIRING ADDITIONAL FILINGS

PROCEDURAL HISTORY

On May 2, 1988 Minnegasco, Inc. (Minnegasco or the Company) made its 1988 Conservation Improvement Program (CIP) filing under Minn. Stat. 216B.241 (1986) and Minn. Rules, part 7840.0200 et seq. On May 11, 1988 the Commission issued its ORDER CONDITIONALLY ACCEPTING MINNEGASCO, INC.'S 1988 ANNUAL CIP FILING. That Order required the correction of certain deficiencies in the filing and requested additional information regarding some of the filing's allegations. On May 23 the Company made a supplementary filing meeting the requirements of the May 11 Order.

The following parties submitted comments on the filing: the Department of Public Service (DPS or the Department); Charles Goldman, the Lawrence Berkeley Laboratory; Gautam S. Dutt, Princeton University; Sheldon Strom, City of Minneapolis, Energy Office; Robert Palrud, West Hennepin Human Services; Cindy Cutter, the Self-Reliance Center; John T. Gorman, Gilbert Mechanical Contractors, Inc.; Art Freeman, a Minneapolis landlord; and Charles E. Houle, Jim Fitzgerald, Gregory L. Domke, and Jon Edwards, contractors who have provided conservation services under CIP projects in the past.

The Self-Reliance Center (SRC) submitted a proposal for an additional project, which it proposed to administer, which would evaluate and address the energy conservation needs of Minnegasco's suburban and rural service areas.

The matter came before the Commission on August 16, 1988. Having reviewed the entire record herein and having considered the comments of all parties, the Commission makes the following findings and conclusions.

FINDINGS AND CONCLUSIONS

SUMMARY OF COMPANY'S PROPOSED PROGRAM

The Company's proposed program consists of eight projects, which are described below.

PROJECTS TO BE CONDUCTED IN COOPERATION WITH THE CITY OF MINNEAPOLIS

The Company proposed to conduct four projects in conjunction with the Energy Office of the City of Minneapolis. The Energy Office will coordinate and administer the projects, using local contractors to deliver the services. The projects are expected to improve 1,400 structures and to serve 4,500 households. Of these households, approximately 3,950 are expected to be rental households and approximately 1,355 are expected to have incomes below 125% of the federal poverty level.

The four projects are described below.

Operation Insulation -- This residential project is continued from the Company's 1987 CIP Program. The project offers major weatherization services and is targeted primarily toward renters who pay utilities and live in one to four unit buildings. It will also include several hundred single family homeowners.

The project consists of a free energy audit, a free energy consultation, and the provision of major weatherization services (insulation, "House Doctor" services, upgrading or retrofitting of heating systems) at participants' expense. Low interest loans to finance major weatherization services are available through the Minneapolis Energy Bank.

The Energy Office will promote the project by direct mail. To encourage landlord participation, the mailings will emphasize that buildings where all recommended weatherization services have been completed will be in compliance with the City of Minneapolis Rental Energy Code and will be so certified.

The Company expects this project to serve 675 homeowner households and 2,400 rental households and has budgeted \$250,627 to fund it.

Project Choice -- This project is continued from the Company's earlier CIP Programs. Originally, it was called the Low Income Project/ Coordinated Energy Services. It is designed to provide comprehensive energy services to low income households. Those services vary with individual household needs, but can include any or all of the following: an energy audit, House Doctor services, weatherization services, conservation education, financial counseling, and identification of potential sources of financial aid and energy assistance.

Services are provided free of charge by the Minneapolis Energy Office, the Minneapolis Community Action Agency, the Urban Coalition, the Salvation Army/Heatshare, and the Minneapolis Community Development Agency. Minnegasco will coordinate the delivery of services.

This project is expected to serve 1,075 households, all of them low income, at a total cost of \$419,635.

Multifamily Project -- This project, too, is continued from the Company's 1987 CIP program, and is targeted toward multi-family buildings with single heating systems. The project consists of workshops for building owners, followed by energy audits, and installation and inspection of energy improvements.

The project focuses on relatively low-cost conservation measures: heating system modifications, the installation of low flow showerheads, and "House Doctor" services. The workshops and audits are funded by Minnegasco; conservation measures are paid for by participating building owners.

The Company estimates that the project will benefit 2,550 households, all of them rental households, approximately 765 of them households with incomes below 125% of the federal poverty level. The project's proposed budget is \$99,855.

Research and Testing Project -- This project, too, was part of Minnegasco's 1987 CIP Program, and consists of research and testing conducted in conjunction with the Energy Office of the City of Minneapolis. The project's purpose is to collect data on conservation issues and technologies, to increase the effectiveness of the Company's conservation efforts.

This year's research topics will be the comparative efficiency of different multifamily hot water heating systems, the seasonal efficiency of multifamily boilers, and the natural gas usage patterns of low income households. The Company has budgeted \$62,047 for this project.

PROJECTS TO BE CONDUCTED IN CONJUNCTION WITH OTHER COMMUNITIES AND COMMUNITY ORGANIZATIONS

The Company also proposes the four projects described below, to be conducted in conjunction with other communities and community organizations.

Home Energy Check-up Project -- This project was offered in 1987 as well and provides conservation education and low cost conservation materials to renters and low income customers. Services include an energy audit, focusing on low-cost, easy- installation conservation measures; provision and installation of low cost infiltration materials; identification of any major weatherization projects appropriate for the dwelling and discussion of any available funding sources; follow-up contact to address any remaining questions or concerns.

The project is administered by local Community Energy Councils. The Company anticipates entering into contracts with Community Energy Councils in the following counties and municipalities: Pipestone, Morristown, Stearns County, Alexandria, Lester Prairie, Little Falls, New Hope, Shakopee, Benson, Willmar, Carver County, and Washington County. A total budget of \$155,800 is proposed.

Project AIR -- The Company sponsored this project in 1987 under the name House Doctor. The project reduces air filtration in homes by weatherstripping, applying void filler, insulating attic accesses, and similar low cost infiltration procedures. It is labor-intensive; the average home visit requires 16 hours of work. The project is administered by cities and counties, and participation is limited to renters and low income customers.

The Company reported in its filing that its analysis of last year's project suggests that it was not cost-effective and should be discontinued. The Company had made verbal commitments to continue the program, however, and several cities and counties said they would not accept the Home Energy Check-up as a substitute for the House Doctor project. The Company therefore proposes to continue the project, re-named Project AIR, through the end of the 1988 CIP year.

To increase the project's cost effectiveness, the Company proposes to limit participation to the leakiest houses and to achieve an average 40% infiltration reduction in houses receiving services. The Company added that the 40% reduction goal would be subject to the necessity of maintaining safe levels of ventilation.

The Company expects to offer Project AIR in the following cities and counties: Shorewood, Golden Valley, Minnetonka, Crystal, Brooklyn Center, Medina, Maple Grove, St. Louis Park, Bloomington, and New Hope. The total project budget is \$137,775.

Project Choice -- The Company proposes to offer Project Choice, described above as a Minneapolis project, to several smaller communities on a pilot project basis. The Company is working with West Hennepin Human Services to identify community agencies which might administer the project and to identify any project modifications which might facilitate its success in these communities.

The targeted communities are Crystal, Brooklyn Center, Golden Valley, and Robbinsdale. The Company anticipates 250 participating households and a budget of \$30,000.

New Construction Rebate Project -- This is a pilot project which will provide cash rebates to builders or developers whose new commercial buildings meet specified energy efficiency standards. Eligible buildings include office buildings, retail and wholesale establishments, multifamily buildings of over four residential units, and buildings housing service operations, with the exclusion of buildings used for manufacturing, processing, prefabrication, warehousing, medical care, and hotel/motel operations.

The energy efficiency standards prescribed are roughly twice as stringent as those currently in the Minnesota Energy Code. Rebates can range up to \$7,500 per building, depending on the size of the building and other factors.

This project would be marketed and administered directly by the Company and is budgeted at \$125,000.

ISSUES RAISED BY COMMENTING PARTIES

As discussed above, thirteen parties filed comments on the Company's proposed CIP program. Five of these were contractors who had provided weatherization services under last year's program. They pointed out that the high public confidence enjoyed by Minnegasco and by the community organizations which administer the CIP program has increased customers' willingness to invest in energy conservation improvements. They also stated they believed last year's program operated with a high level of efficiency and professionalism.

One commenting party was a Minneapolis landlord who had participated in last year's CIP program. He stated that his participation had resulted in energy savings of 50% and had made his building more comfortable and more attractive to renters.

The comments of the other parties were numerous and detailed. They ranged from suggestions for incremental changes in projects and reporting procedures to a proposal to add a new project. Discussions between the Company and commenting parties resulted in the Company modifying some of its proposals. All references in this Order to Company projects include such modifications.

Some issues raised by the parties remain unresolved. The most significant of these issues, and the Commission's decisions on them, are discussed below.

Project AIR/House Doctor Cutbacks

As discussed above, the Company stated that analysis of the House Doctor project had shown it to be so low in cost effectiveness that it should be phased out after this CIP year. In the meantime, the Company proposed to offer it in reduced form under a new name, Project AIR. Participation in Project AIR would be limited to the leakiest houses, where the Company would expect to achieve air filtration reductions of at least 40%. This proposal generated a great deal of comment.

The Department of Public Service labelled the Company's proposal premature and stated the Company's cost effectiveness analysis was skewed by its use of an inappropriately low retail rate growth estimate and by the omission of commodity costs in computing savings.

Gautam Dutt, a Princeton researcher who helped develop the House Doctor concept, stated the Company erred by expressing energy savings as percentages, rather than as absolute values, by including non-heating gas usage in developing savings estimates, and by underestimating the useful lives of retrofitting materials in computing payback periods. Mr. Dutt also stated that cost effectiveness could be improved by including non-infiltration services, such as furnace tune-ups, in the project.

West Hennepin Human Services (West Hennepin) stated that the 40% infiltration reduction requirement and the emphasis on large homes would substantially reduce the number of low income persons eligible to receive services under the project. West Hennepin also emphasized that project participants report high levels of satisfaction with the service, that participating contractors

might raise their prices to reflect the increased labor necessary to achieve a 40% reduction, and that many homes cannot be safely tightened to that degree.

The Commission finds that the concerns of the parties merit further investigation and that it would be premature to approve discontinuation of the project on the basis of the preliminary cost effectiveness results reported by the Company. The Company itself acknowledges that development of a cost effectiveness model is an ongoing process and that the preliminary results should be used only with caution and in conjunction with other factors.

The Commission understands the Company has begun a process to examine the future of its "House Doctor" services and has requested participation by the interested parties. The Commission will require a report on this process within 30 days of the date of this Order.

The Commission also agrees that including non-infiltration services in Project AIR, and expanding eligibility beyond those homes capable of a 40% infiltration reduction, merits investigation. This, too, is under discussion, and should be addressed in the above-mentioned report.

The Self-Reliance Center's Project Proposal

The Self-Reliance Center (SRC or the Center) submitted a proposal for an additional CIP project, which the Center proposed to administer. This project would be targeted at suburban and rural areas within a 50 mile radius of the Twin Cities which have not previously participated in CIP projects. The Center believed the project would perform two functions: it would deliver conservation services to areas where they had been unavailable, and it would help assess the need and demand for such services in those areas.

The proposed project would consist of home energy workshops, which would provide attendees with basic conservation information, followed by Home Energy Tune-ups or Home Energy Check-ups. The Home Energy Tune-up would combine the features of the earlier-described Home Energy Check-up with a furnace efficiency and safety check and an abbreviated House Doctor visit. The House Doctor visit would last for only half a day, as opposed to the average visit of 16 hours. Participants could also forego House Doctor services and participate only in the Home Energy Check-up, which would include the same services as the Home Energy Check-ups described earlier.

The Commission shares the concerns of the Department and the Company regarding the Home Energy Tune-up and the workshop portions of this project. The Home Energy Tune-up is basically a House Doctor project, and the Commission is reluctant to approve further projects on the House Doctor model until the questions raised in this filing about such projects have been fully addressed. As to workshops, experience has shown that, since energy prices have stabilized, participation levels at energy workshops have often been disappointingly low. At present, workshops do not appear to be an effective means of promoting participation in conservation programs under most circumstances.

On the other hand, the Commission sees great value in expanding the benefits of the CIP program to unserved areas and in collecting data regarding conservation potential in those areas. One portion of the project proposed by the Self-Reliance Center, the Home Energy Check-up, is virtually identical to a project the Company proposes to offer in other areas during this CIP year. It is reasonable to require the Company to extend that project to unserved areas as well. The Commission will therefore approve the Home Energy Check-up portion of the proposed project, subject to a further filing identifying the specific areas to be served. The Commission will authorize the project to serve 350 participants at a budget of \$31,500.

COMMISSION APPROVAL OF PROGRAM

The Program Generally

The Commission finds that the Company's program, taken as a whole, fulfills the requirements of Minn. Stat. 216B.241 (1986). The program evinces a serious effort to address the conservation needs of the Company's customers in a comprehensive manner. It fulfills the statutory requirement that the Company make a significant investment in and expenditure for conservation improvements.

The program is geographically balanced, providing services in metropolitan, suburban, and rural portions of the Company's service area. The addition of the Self-Reliance Center's project contributes further to the program's geographic balance.

The program includes a strong research and testing component. This not only provides short term benefits by identifying worthwhile projects for next year's program; it also provides a stable base for long term conservation efforts.

The program covers both residential and commercial customers. This meets a longstanding Commission concern that companies not limit their conservation efforts to the residential customer class. Furthermore, the residential projects serve both single family homeowners and apartment dwellers, while the commercial projects serve residential, retail, wholesale, service, and office buildings. The Commission believes that including such a variety of structures is in keeping with the comprehensive conservation effort envisioned by the CIP statute.

This year's CIP budget represents 0.4% of the Company's 1987 Minnesota sales revenues, or approximately \$3.30 per Minnesota customer. The program will serve approximately 11,000 customer households directly. It will also benefit many people indirectly, for example, tenants in office buildings made energy efficient to qualify for the New Construction Rebate Program.

Considering the program as a whole, the Commission concludes that it is appropriate and that it represents a significant investment and expenditure on the part of the Company.

Consideration for Needs of Renters and Low Income People

The program fulfills the statutory requirement of showing special consideration for the needs of renters and low income people. Two projects, the metropolitan and non-metropolitan versions of Project Choice, limit participation to low income people. Seven of the eight projects place special emphasis on the needs of renters, many of whom will also be low income.

Cost Effectiveness

The statute requires that, to the extent possible, the conservation improvements funded by the Company be cost effective. The statute speaks of cost effectiveness in terms of the cost of conservation improvements not exceeding the cost of producing or purchasing the amount of energy saved. Nevertheless, the statute requires the Commission to ensure that utilities with annual revenues exceeding \$50,000,000 make significant investments in and expenditures for conservation improvements, even if the level of cost effectiveness discussed above cannot be attained.

Cost effectiveness analysis is an evolving area of utility regulation. The Commission, the Department of Public Service, the CIP utilities, and other parties have been engaged in studies and discussions on the issue since the CIP program began. It would be premature at this point to attempt a definitive analysis of the cost effectiveness of this year's program.

The Commission is convinced, however, that the program is cost effective under existing standards. The only party to express serious doubt about its cost effectiveness was the Company, which presented disappointing cost effectiveness results in its May 2 filing. The Company included revenues lost due to conservation in the cost of the program, however, which appears inconsistent with the statutory cost effectiveness test. The Company also made erroneous factual assumptions on at least two matters, the average expenditure per participant in Operation Insulation and the average life of retrofitting materials in Project AIR. The Company's initial calculations therefore

do not appear to be the most reliable cost effectiveness data available.

Furthermore, the Commission agrees with the parties who pointed out that CIP projects produce many benefits which are not factored into traditional cost effectiveness analyses. Studies show, for instance, that low income customers who participate in Project Choice have lower arrearages, less need for Fuel Assistance, and fewer shut-off notices the following heating season. This is financially advantageous to the utility, its ratepayers, the taxpayers, and participating customers. It also has an unmeasured effect on the quality of life in participating households, which have fewer utility-related crises because of their participation in the project. Similarly, surveys of House Doctor participants show that they rate increased comfort, a non-quantifiable benefit, as a primary advantage of their participation. Landlords, too, report that weatherization increases the resale value of their property and its attractiveness to potential tenants.

Other benefits of conservation normally excluded from cost effectiveness equations are the environmental benefits, the infusion into the local economy of dollars which would otherwise have been spent on energy, the potential for long term price stability resulting from limited need for new supplies, and data on usage patterns and conservation potential derived from conservation projects.

Considering both traditional cost effectiveness measures and the considerations set forth above, the Commission concludes that the Company's program complies with appropriate and prevailing cost effectiveness standards.

Accounting Treatment and Cost Recovery

The Commission normally addresses accounting and cost recovery issues related to CIP expenditures in its Order authorizing implementation of the CIP program. The Commission will defer consideration of these issues in this case, however, because their complexity merits consideration in a separate proceeding.

ORDER

1. Minnegasco's corporate conservation plan complies with Commission requirements and is accepted.
2. The Commission approves the Company's CIP proposal, as modified herein. The approved plan consists of the following projects funded at the levels indicated:

Minneapolis Projects

Operation Insulation	\$250,637
Multifamily Project	\$419,635
Project Choice	\$ 99,855
Research and Testing	\$ 62,047

<u>Non-Minneapolis Projects</u>		
Home Energy Check-up, including proposed by Self-Reliance Center and modified herein	\$187,300	\$31,500 for project
Project AIR	\$137,775	
Project Choice	\$ 30,000	
New Construction Rebate	\$125,000	
 <u>Evaluations</u> (Minneapolis projects)	 \$ 42,826	
 <u>Program Administration</u>	 \$150,000	
 <u>Total Budget</u>	 \$1,505,075	

3. In the event that any portion of the program approved herein cannot be carried out, the Company shall submit a new project filing as soon as practicable.
4. The Company shall consult with West Hennepin Human Services, the Department of Public Service, and other interested parties regarding the Project AIR issues discussed herein and shall file a report on the result of those discussions within 30 days of the date of this Order.
5. The Company shall consult with the Self-Reliance Center regarding the Home Energy Check-up project added herein and shall file a report within 30 days of the date of this Order containing a detailed description of the project, including the names of the communities where it will be offered and the number of project participants who are expected to be renters.
6. The Company shall submit a copy of its contract with the Self-Reliance Center as soon as it is signed.
7. The Company shall file for Commission approval all promotional materials intended for use in the New Construction Rebate Project before any such material is distributed. Parties shall have seven days from the date of filing to submit comments on the materials.
8. The Company shall file status reports on all projects approved herein on or before December 30, 1988.
9. To the maximum extent practicable the Company shall ensure that all CIP participants have free choice of the devices, methods, materials, sellers, installers, and contractors used in making conservation improvements to their property.
10. With the exception of the promotional materials discussed in paragraph 7, parties shall have 15 days from the date of filing to file comments on any filing submitted by the Company herein.
11. In future annual filings the Company shall include, to the extent practicable, interim evaluations of projects proposed for continuation.

12. In future annual filings the Company shall include in the cost of each project evaluation costs, with an itemization of expenses which is sufficiently detailed to allow removal of evaluation costs from cost effectiveness analyses.
13. The Company shall continue to work with the Department in the development of cost effectiveness analyses for gas utilities. Both parties shall continue to submit cost effectiveness analyses and accompanying explanatory notes for proposed CIP projects.
14. The Company shall work with the Department to develop a plan specifying total projected CIP energy savings for the near term and incorporating conservation options into the Company's overall supply/demand planning. The Company shall file this plan with its next annual CIP filing.
15. This Order shall become effective immediately.

BY ORDER OF THE COMMISSION

Mary Ellen Hennen
Executive Secretary

(S E A L)