

STATE OF MINNESOTA  
DEPARTMENT OF ENERGY, PLANNING AND DEVELOPMENT  
ENERGY DIVISION (MINNESOTA ENERGY AGENCY)

In the Matter of the Proposed Adoption  
of Rules of the Department of Energy,  
Planning and Development (Minnesota  
Energy Agency) Governing Design Loans  
Under the District Heating Bonding Act  
6 MCAR §§ 2.4011-2.4017

STATEMENT OF  
NEED AND  
REASONABLENESS

INTRODUCTION

In the 1981 session, the Minnesota Legislature enacted the District Heating Bonding Act, Laws of 1981 Chapter 334, hereinafter "Act", for the purpose of fostering the establishment and improvement of district heating systems. The Department of Energy, Planning and Development (Minnesota Energy Agency), hereinafter "Department", has developed these rules under the authority of Section 1, Subdivision 11 of the Act for the purpose of administering a program of loans to municipalities for district heating design.

The objective of the District Heating Design Loan Program is to encourage the development and expansion of economically viable district heating systems which have the potential to save energy and/or displace scarce fuels such as petroleum and natural gas.

This Statement of Need and Reasonableness will illustrate the manner in which the Department will administer the design loan program under the Act.

Temporary rules for design loans were duly promulgated and became effective on September 21, 1981. They are published in the State Register of August 3, 1981 (6 S.R. 136) with additions in October 12, 1981 (6 S.R. 641).

RULES

The format used in preparing this Statement of Need and Reasonableness is as follows: each rule is stated and underlined; it is then followed by an

explanation of the intent of the proposed rule and the need for the proposed rule.

6 MCAR S 2.4011 Definitions.

A. Applicability. For the purposes of 6 MCAR SS 2.4011-2.4017 the terms defined in B.-G. have the meanings given them.

This rule contains definitions of those terms that are used often in the rules which might not be understood by the reader and also terms which are used in a shorthand manner in the rules.

B. Act. "Act" means Laws of 1981, ch. 334.

This section provides a shorthand method of referring to the legislation under which these rules are promulgated.

C. Commissioner. "Commissioner" means the Commissioner of the Department of Energy, Planning and Development.

This section provides a shorthand method of referring to the official who is responsible for reviewing applications.

D. Department. "Department" means the Department of Energy, Planning and Development.

This section provides a shorthand method of referring to the branch of state government responsible for administering the Act.

E. Design loan. "Design loan" means a loan made to fund those activities required to be completed during the final design phase of a district heating system in order to finance and construct the system. These activities include conducting economic feasibility analyses, obtaining heat source commitments and customer contracts, structuring financing, and related management tasks.

This section is needed to inform prospective applicants of the type of activities that a design loan would be used for and give several non-exclusive examples.

F. Preliminary engineering design. "Preliminary engineering design" means a design effort with the objective of estimating district heating design and construction costs within 15 percent of the actual costs.

This section informs prospective applicants of the type of preliminary work that must be done before an application can be made and the degree of accuracy that is expected.

G. Project. "Project" means a district heating design project.

This section provides a shorthand method of referring to the undertaking to develop district heating which the design loan will be a part of.

6 MCAR S 2.4012 Authority, purpose, and applicability.

A. Authority. Rules 6 MCAR SS 2.4011-2.4017 are authorized by Minn. Stat. S 116H.31, subd. 11.

This section is necessary to indicate the statutory authority and requirement for promulgating these rules.

B. Purpose. Rules 6 MCAR SS 2.4011-2.4017 are promulgated for the purpose of allowing prompt and proper applications for design loans after comprehensive preliminary engineering, economic, and design studies have been completed. Rules 6 MCAR SS 2.4011-2.4017 set forth the procedures that municipalities must follow to apply for loans and establish the criteria by which the applications are reviewed.

This section is necessary to inform prospective applicants that the rules contain application procedures and evaluation criteria. It also informs them that preliminary studies must be done before an application can be made.

C. Applicability. Rules 6 MCAR SS 2.4011-2.4017 apply to the department and to any municipality applying for design loans under the Act.

This section is necessary to inform prospective applicants of the parties who will be governed by these rules.

6 MCAR S 2.4013 Application procedure. Applications for design loans under the Act and 6 MCAR SS 2.4011-2.4017 shall be submitted to the commissioner. Ten complete copies shall be submitted. Applications will be accepted beginning on the date 6 MCAR SS 2.4011-2.4017 become effective.

This rule is needed to inform prospective applicants that applications should be sent to the Commissioner and that ten copies are needed. It also informs them that no applications will be received under these rules until they become effective.

6 MCAR S 2.4014 Application contents.

A. Information required. An application shall contain the following information:

This rule informs prospective applicants what items must be included in the application.

1. Name, address, and telephone number of the responsible official of the municipality;

This section is needed so that the Department will have a contact person for each application.

2. A comprehensive business plan for the project as specified in 6 MCAR S 2.4015;

This section is necessary to inform applicants that a certain amount of planning must be done before an application can be made and to delineate what steps are needed.

3. A resolution in support of the project from the governing body of the municipality, which must include the pledges the municipality proposes to make to guarantee repayment of the design loan;

Since loans are to be made to municipalities it is necessary that such municipalities pledge their moral and financial support to the project.

4. A resolution or letter of intent from the proposed owner or operator of the district heating system indicating that he would expect to proceed with construction if the results of the design and final feasibility project are consistent with the preliminary feasibility study;

This section is necessary to determine the intent of the primary party of each district heating system. The purpose of the act is to foster the development of district heating systems. In situations where the preliminary studies indicate that a system is feasible and all design work has been completed, and if the proposed system owner decides that he does not want a system after all; then the purpose of the act is defeated. This section asks for a commitment at this early stage to avoid such problems.

5. Identification of all licenses, permits, zoning regulations, and other requirements of federal, state, or local governments with which the project would be expected to comply, and the present status of each;

The requirement of compliance with governmental regulation can have a significant effect on the timing and even the viability of a district heating project. It is reasonable to expect the Commissioner to be appraised of the status of such compliance.

6. A list of key personnel and their qualifications as they relate to the project;

The participation of qualified people is of vital importance to the success of a district heating development. It is reasonable for the Commissioner to require information on who will be working on a project and what their qualifications are.

7. An estimate of the type and amount of fuel to be saved per year from the full operation of the district heating system compared to the type and amount of fuel to be used by the system;

Two of the stated purposes of the Act are to increase energy efficiency and to reduce the need for imported energy supplies. It is reasonable to

require energy information to determine if a project fulfills these purposes.

8. A negative declaration of the need for an environmental impact statement from a completed environmental assessment worksheet.

B. Waiver of negative declaration. The commissioner may waive the requirement of A.8. upon written request by the municipality. This request will be considered as part of the application and must contain the municipality's rationale in support of a waiver.

The act gives priority to environmentally benign projects, so it is necessary to require environmental information. In most cases district heating projects will have minimal environmental effects. It is expected that few, if any, will require an Environmental Impact Statement (EIS). It is reasonable to require a negative declaration with a waiver provision. In those cases where an EIS is needed or if no environmental regulations apply, then the municipality must present environmental information to the commissioner. This becomes part of the application and is therefore considered in the evaluation.

6 MCAR S 2.4015 Contents of comprehensive business plan.

A. Minimum contents. The comprehensive business plan submitted under 6 MCAR S 2.4014 A.2. must contain no less than the information specified in B.-H.

This rule is needed to specify exactly what information must be included in the comprehensive business plan.

B. Preliminary engineering design. A preliminary engineering design of the project must include the following information.

1. An analysis of the proposed piping layout must address optimum service to the total designated area; reliability of service; system temperatures and pressure requirements; thermal and hydraulic operability for normal and emergency conditions; optimum piping configuration to provide service; and flexibility for future expansion.

In order to properly evaluate applications, it is reasonable and necessary for the commissioner to require the completion of a preliminary engineering design of the district heating project. A municipality must do significant preliminary work to arrive at the point where an intelligent decision to design and build a district heating system can be made.

The piping layout of a project will have a significant effect on the capital cost, reliability, operating costs and the overall feasibility of a project. It is reasonable that the commissioner require applicants to furnish detailed information on the piping layout.

2. An analysis of the proposed piping design must address reliability of service; ease of construction; ease of maintenance; installation methods; and specifications and standards.

Likewise, piping design is important in regard to the capital costs, reliability and operating costs of a project. It is reasonable for the commissioner to require detailed information on piping design also.

3. An analysis of the heat source design must define the proposed roles of the following heat sources in the development and the future operation of the system: base load heating plant; peaking plants; large boiler plants in existing buildings; mobile boilers; accumulators; and future heat sources such as solid waste, solar, and industrial waste heat.

Additionally, the design of the heat source to be used in a district heating project is an important part of the preliminary engineering study. The development of a district heating system will usually proceed in stages and different heat sources will play different roles in each stage. It is reasonable for the commissioner to require an analysis of how each heat source will fit into the overall development.

C. Market study. The comprehensive business plan must include a market study of customers who represent 90 percent of the proposed thermal load of the district heating system defined by the business plan. This study must show detailed information on present fuel consumption or heating demand and the present heating system in each building.

A thorough market study is essential to a good business plan. The design and the development of a district heating system will revolve around the market study. It is reasonable to require a market study representing a full 90% of the thermal load. Since district heating systems usually involve densely populated downtown areas with a relatively small number of large customers, such a study should not be overly difficult to perform.

D. Preliminary expansion plan. A preliminary expansion plan must show how the system could be expanded to serve other parts of the community.

Once a successful district heating system is established it is usually economically attractive to expand the system to other parts of the community. It is reasonable to expect a project to take account of such possible future expansion in the early planning stages.

E. Preliminary economic analysis. A preliminary economic analysis must include a preliminary financing and development plan for the district heating system and cash flow, income, and balance sheets for a 20-year planning period. This analysis must also contain a cost estimate and expenditure schedule for all transmission and distribution piping; heat source conversion, purchase, or rental; operating and maintenance costs excluding fuel costs; and building heating conversion costs.

A comprehensive economic analysis with detailed cost figures is vitally important to any business plan. It is reasonable to require a 20 year planning period, because the terms of the loans will be at least that long. Since design loans will be for less than the total cost of a project, it is important that the commissioner know how the entire project is to be financed in order to review it.

F. Letters of intent to purchase heat. The applicant shall submit copies of letters of intent to purchase heat supplied by the project, from major customers representing at least 50 percent of the thermal load.

In order for a district heating system to be economically viable, there must be a strong interest by potential customers in using the system. It is reasonable to expect this minimum level of commitment in order to proceed with planning and development.

G. Letter of intent to furnish heat. The applicant shall submit a copy of a letter of intent to furnish heat, from the owner of the heat source or the proposed system owner or operator.

In some cases the source of heat for the district heating system will be controlled by someone other than the applicant, such as when hot water is to be purchased from an existing power plant or when a corporation will own the system. In those cases it is reasonable to expect a commitment from such parties, because without it no district heating development can take place.

H. Engineering opinion. The business plan requires an opinion by a registered professional engineer that the system described by the preliminary designs is technically feasible and that the preliminary engineering design and cost estimate is within standard engineering practice.

This section is needed to insure that each applicant retains competent engineering personnel and that these people thoroughly examine the proposal.

6 MCAR S 2.4016 Application review criteria. The commissioner shall review each application as it is received according to...

This rule identifies the official who is responsible for examining and rating applications and lists the standards by which they will be evaluated.

Requiring each application to be reviewed as received eliminates the confusion of late additions or deletions. It also puts all applicants on an equal footing,

because extraneous considerations which are not part of the application will not be considered.

...the eligibility and priority criteria of Minnesota Statutes S 116H.31;...

This section informs the prospective applicant that the act specifies certain standards by which applications will be judged.

...the sophistication and reasonableness of the technical approach as detailed in the application;...

This section is necessary to inform applicants that projects will be evaluated on the overall feasibility of the project and the thoroughness of their preliminary engineering work.

...the experience and qualifications of the applicant as they relate to the project;...

This section is needed to advise the applicant that projects will be evaluated on the quality of the team of firms and individuals brought together to carry out the district heating development, including city officials and employees, engineering marketing and design firms, and financial consultants.

...the project organization and personnel assignment;...

This section informs applicants that projects will be evaluated on how they plan to bring about the district heating development and whether firms and individuals are assigned to the tasks that each are best qualified for.

...and the estimated cost of the project.

This section informs applicants that projects will be evaluated on the adequacy or excessiveness of their project cost compared to the scope of the work to be done.

6 MCAR S 2.4017 Expenditures not required. Rules 6 MCAR SS 2.4011-2.4017 do not require expenditure of money not available.

This section advises applicants that these rules should never be interpreted to require the spending of funds that are not available.

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DEPARTMENT OF ENERGY, PLANNING AND DEVELOPMENT  
ENERGY DIVISION (MINNESOTA ENERGY AGENCY)  
ALTERNATIVE ENERGY DEVELOPMENT SECTION

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