Sec. 22a-439-3. Technical program elements

(a) **Engineering Report Requirements**

(1) General

Engineering reports consist of those necessary plans and studies which directly relate to the development of pollution abatement strategies and the construction of pollution abatement facilities necessary to comply with an Order to Abate Pollution as defined in Section 22a-423. The engineering report will demonstrate the need for the proposed pollution abatement facility through an evaluation of all feasible alternatives and shall demonstrate that the selected alternative is cost-effective, i.e. is the most economical means of meeting effluent and water quality goals while recognizing environmental considerations.

(2) Content of Engineering Reports

The content of the engineering report shall be determined by the Commissioner based on a pre-report conference with the municipality and its engineering consultant regarding the precise plan of study (engineering report outline) and resulting scope of services to be performed. Engineering reports must address as a minimum each of the following as determined appropriate by the Commissioner:

(A) A detailed evaluation of the existing and potential wastewater treatment and disposal problems in the study area.

(B) A cost-effective analysis of alternatives available to correct the pollution problems identified. The final selection of alternative(s) to correct the problems noted shall be based on the results of the cost-effectiveness analysis. The monetary costs to be considered must include the present worth or equivalent annual value of all capital costs and operation, maintenance and replacement costs. The interest rate used for this analysis shall be the rate established by the Federal Water Resources Council for use in federally funded projects. The population forcasting in the analysis shall be consistent with current projections of the Connecticut Office of Policy and Management. A cost-effective analysis shall include:

(i) The relationship of the size and capacity of the recommended facilities to the needs to be served, including any reserve capacity.

(ii) An evaluation of alternative flow and waste reduction measures, including nonstructural methods.

(iii) An evaluation of improved effluent quality attainable by upgrading the operation and maintenance and efficiency of existing facilities as an alternative or supplement to construction of new pollution abatement facilities.

(iv) An evaluation of the capability of each alternative to meet applicable effluent limitations and water quality standards.

(v) Appropriate consideration should be given to various treatment techniques including: conventional biological or physical-chemical treatment and discharge systems; land application techniques and other innovative and alternative techniques which may result in recycling of water and pollutants; onsite and nonconventional systems, both community and individual.

(vi) An evaluation of the alternative methods for the ultimate disposal of treated wastewater and sludge materials resulting from the treatment process and a justification for the method(s) chosen.

(vii) An adequate assessment of the expected environmental impact of alternatives

(including sites) under the requirements of Section 22a-1a to 1f, inclusive, of the Connecticut General Statutes.

(C) If applicable, a demonstration of the non-existence or possible existence of excessive infiltration/inflow in the affected sewerage system.

(D) An identification of proposed effluent discharge limits if appropriate and a description of how the proposed project will result in compliance with any pollution abatement order issued by the Commissioner.

(E) A summary of public participation in the development of the engineering report.

(F) A brief statement demonstrating that the local authorities who will be implementing the plan have the necessary legal, financial, institutional, and managerial resources available to insure the construction, operation and maintenance of the proposed pollution abatement facilities.

(G) A brief description of potential opportunities for recreation, open space, and access to bodies of water afforded by the recommended project.

(H) For the selected alternative, a concise description of at least the following:

(i) Estimated capital construction and operation and maintenance costs (identifying state and local shares) and a description of the manner in which local costs will be financed.

(ii) Estimated cost of future expansion and long term needs for reconstruction of pollution abatement facilities following their useful life.

(iii) Cost impacts on pollution abatement facility users.

(iv) A statement concerning the availability and estimated cost of any proposed treatment sites.

(3) Public Participation

(A) The scope and level of detail of the public participation program shall be determined during the development of the plan of study. The program shall be comprised of public forums such as workshops, meetings and hearing(s) as necessary to promote public awareness and input into the planning process.

(B) At a minimum, prior to adoption of the engineering report, the municipality must hold a public hearing to describe the proposed program and action(s) and to assure that the public's concerns are fully considered.

(C) The time and place of the public hearing shall be conspicuously and adequately announced at least 10 days in advance, or for such longer period as may be required by local ordinance or charter. Copies of the engineering report must be made available for inspection by the public at least 10 days prior to the hearing.

(D) A request to waive the public hearing on an engineering report may be submitted in writing to the Commissioner when the municipality determines a public hearing is not necessary and would not serve the public interest.

(4) Federal Requirements

Compliance with the engineering report requirements set forth herein does not constitute or imply compliance with similar federal grant program requirements for construction of pollution abatement facilities. In the event that the municipality may seek federal grant funds for a project, additional issues may have to be addressed in the engineering report to meet federal requirements in effect at that time.

(b) **Small Community Systems**

Projects proposed to be funded from the reserve for small communities shall be for improvements to existing wastewater treatment systems or new interceptor sewers and treatment works serving small communities. Routine interceptor sewer extensions within municipalities that do not meet the definition of a small community are not eligible for funding from this reserve. Categories of projects eligible for grant assistance under this reserve are (1) projects involving improvements to or construction of interceptor sewers and treatment works for which the entire proposed service area within the municipality meets the definitions of a small community and (2) projects for interceptor sewers connecting a service area meeting the definition of a small community to a wastewater treatment facility in another municipality. In order to be eligible for grant funding under this reserve, the applicant must demonstrate to the satisfaction of the Commissioner that the only alternative to the proposed project would be the construction of new treatment works which would involve a discharge of treated wastewater which would result in violation of or require a revision to the State's Water Quality Standards and Criteria as adopted pursuant to Section 22a-426 of the Connecticut General Statutes, as amended.

(c) **Privately Owned Individual Systems**

(1) A municipality may apply for a grant to construct privately owned pollution abatement facilities serving one or more principal residence or small commercial establishments.

(2) In addition to the engineering report requirements set forth in Section 22a-439-3 (a) the municipality shall:

(A) Demonstrate that the total present worth cost and environmental impact of building the individual systems will be less than the present worth cost of a larger municipally owned pollution abatement facility.

(B) Demonstrate to the satisfaction of the Commissioner that the individual systems proposed are part of a technically feasible and implementable program which will successfully address all existing and potential wastewater treatment needs within the planning area.

(C) Certify that the principal residence or small commercial establishment was constructed before July 11, 1983, and inhabited or in use on or before that date.

(D) Apply on behalf of a number of individual units to be served in the planning area.

(E) Certify that, where public ownership of such works is not feasible, the municipality will have unlimited right of access to the site and to the system for the purpose of necessary inspection, maintenance, and repair.

(F) Certify that such treatment works will be properly operated and maintained and will comply with all other requirements of these regulations, state statutes, and the Regulations of Connecticut State Agencies.

(G) Certify that a user charge system established in compliance with these regulations will be developed and implemented to ensure the availability of financial resources sufficient to ensure the proper operation, maintenance, and eventual repair or replacement of grant funded facilities and those individual systems which are within the service area identified in paragraph (B) above but which are not required and replaced with the assistance of state grant funds.

(d) **Value Engineering (VE)**

(1) Value engineering proposal. All design funding assistance applications for projects having a projected total building cost of $10 million or more, including the cost for interceptor and collector sewers, will contain a VE commitment. The VE proposal must contain sufficient information for the Commissioner to determine the adequacy of the VE effort and the justification of the proposed VE fee. Essential information shall include the scope of VE analysis, VE team and VE coordinator (names and background), level of VE effort, VE cost estimate, and VE schedule in relation to project schedule (including completion of VE analysis and submittal of VE summary reports). The VE coordinator and a majority of the VE team members shall be employed by a firm (or firms) other than the design engineering consultant.

(2) Value engineering analysis. When the VE analysis is completed, a preliminary report summarizing the VE findings and a final report describing implementation of the VE recommendations must be submitted to the Commissioner.

(3) Implementation. For those projects on which a VE analysis has been performed, VE recommendations shall be implemented to the maximum extent feasible as determined by the Commissioner. The Commissioner shall consider VE recommendations on the basis of cost-effectiveness, reliability, and other factors that may be critical to the treatment processes and the environmental impact of the project and the extent of project delays.

(e) **User Charge System**

The user charge system must be designed to produce adequate revenues required for the operation, maintenance, and replacement of the pollution abatement facilities. It shall provide that each user which discharges wastewaters to the system that cause an increase in the cost of operating and maintaining pollution abatement facilities shall pay for such increased cost. The user charge system shall be based on either actual use or ad valorem taxes as follows:

(1) User charge system based on actual use. A municipality's user charge system based on actual use (or estimated use) of wastewater treatment services shall provide that each user (or user class) pays its proportionate share of operation and maintenance (including replacement) costs of pollution abatement facilities within the municipality's service area, based on the user's proportionate contribution to the total wastewater loading from all users (or user classes).

(2) User charge system based on ad valorem taxes. A municipality's user charge system which is based on ad valorem taxes shall provide that:

(A) On the effective date of these regulations, the municipality had in existence a system of dedicated ad valorem taxes which collected revenues to pay the cost of operation and maintenance of pollution abatement facilities within the municipality's service area and the municipality has continued to use that system.

(B) Each member of the industrial user and commercial user class which discharges more than 25,000 gallons per day of sanitary waste pays its share of the costs of operation and maintenance (including replacement) of the pollution abatement facilities based upon charges for actual use.

(C) If the Commissioner determines that the municipality has historically demonstrated that the ad valorem system has resulted in proper operation and maintenance and management of the pollution abatement facilities including the sewer system.

(3) Notification. Each user charge system must provide that each user be notified, at least annually, in conjunction with a regular bill, of the rate and that portion of the user charges or ad valorem taxes which are attributable to wastewater treatment services.

(4) Financial management system. Each user charge system must include an adequate financial management system that will accurately account for revenues generated by the system and expenditures for operation and maintenance (including replacement) of the treatment system.

(5) Charges for operation and maintenance for extraneous flows. The user charge system shall provide that the costs of operation and maintenance for all flow not directly attributable to users (i.e., infiltration/inflow) be distributed among all users based upon either of the following:

(A) In the same manner that it distributes the costs for their actual use, or

(B) Under a system which uses one or any combination of the following factors on a reasonable basis:

(i) Flow volume of the users.

(ii) Land area of the users.

(iii) Number of hookups or discharges of the users.

(iv) Property valuation of the users, if the municipality has an approved user charge system based on ad valorem taxes.

(6) Adoption of system. One or more municipal legislative enactments or other appropriate authority must incorporate the user charge system. If the project is a treatment system accepting wastewaters from other municipalities, the subscribers receiving waste treatment services from the municipality shall adopt user charge systems in accordance with this section. These user charge systems shall also be incorporated in appropriate municipal legislative enactments or other appropriate authority of all municipalities contributing wastes to the pollution abatement facilities. Grant payments shall not exceed 90% of the total construction grant award until the municipality has adopted the approved user charge system.

(7) Implementation of system. The municipality shall implement its user charge system before the pollution abatement facility is placed in operation.

(f) **Sewer Use Ordinance**

(1) Each municipality applying for grant assistance shall demonstrate to the satisfaction of the Commissioner that a sewer use ordinance or other legally binding requirement has been or will be enacted and will be enforced in each jurisdiction served by the pollution abatement facility before the completion of construction. The ordinance shall prohibit any new connections from inflow sources into the sanitary sewer portions of the pollution abatement facility, shall insure that new sewers and connections to the pollution abatement facility are properly designed and constructed, and shall require that all wastewaters introduced into the pollution abatement facility will not contain toxics or other pollutants in amounts or concentrations that endanger public safety and physical integrity of the pollution abatement facility, cause violation of the conditions of any permit issued by the Commissioner, or preclude the selection of the most cost-effective alternative for wastewater treatment and sludge disposal.

(2) Grant payments shall not exceed 50% of the total construction grant award until the

municipality has submitted a copy of its sewer use ordinance to the Commissioner for review.

(3) Grant payments shall not exceed 90% of the total construction grant award until the municipality's sewer use ordinance has been approved by the Commissioner and enacted by the municipality.

(4) The municipality shall adopt and implement its sewer use ordinance before the pollution abatement facility is placed in operation.

(g) **Infiltration/Inflow**

(1) General. The municipality shall demonstrate to the Commissioner's satisfaction that each sewer system discharging into the proposed pollution abatement facility is not or will not be subject to excessive infiltration/inflow. For combined sewers, inflow is not considered excessive in any event.

(2) Inflow. If the rainfall induced peak inflow rate results or will result in chronic operational problems during storm events, the municipality shall perform a study of the sewer system to determine the quantity of excessive inflow and to propose a rehabilitation program to eliminate the excessive inflow. All cases in which pollution abatement facilities are planned for the specific storage and/or treatment of inflow shall be subject to a cost-effective analysis.

(3) Infiltration.

(A) If the flow rate at the existing pollution abatement facility is 150 gallons per capita per day or less during periods of high groundwater, the municipality shall build the project including sufficient capacity to transport and treat any existing infiltration. However, if the municipality believes any specific portion of its sewer system is subject to excessive infiltration, the municipality may confirm its belief in a cost-effective analysis and propose a sewer rehabilitation program to eliminate that specific excessive infiltration.

(B) If the flow rate at the existing pollution abatement facility is significantly more than 150 gallons per capita per day during periods of high groundwater, the municipality shall perform a study of the sewer system to determine the quantity of excessive infiltration and to propose a sewer rehabilitation program to eliminate the excessive infiltration.

(C) If the flow rate at the existing pollution abatement facility is not significantly more than 150 gallons per capita per day, the municipality may request the Commissioner to determine that the project proceed without further study.

(D) The Commissioner may authorize the municipality to perform minor sewer system rehabilitation concurrently with the sewer system evaluation survey if there is no adverse environmental impact. Rehabilitation which would be a part of the municipality's normal operation and maintenance responsibilities shall not be fundable.

(h) **Reserve Capacity**

The Commissioner will limit grant assistance for reserve capacity in pollution abatement facilities as follows:

(1) No grant shall be made to provide reserve capacity for a project for secondary or more stringent treatment or new interceptors and appurtenances. Grants for such projects shall be based on capacity necessary to serve existing needs as determined on the date of award of the construction grant and shall be consistent with the definition for eligible capacity established for the Federal Construction Grants Program in 40 CFR 35.2123.

(2) The Commissioner may require the construction of reasonable reserve capacity.

(3) All incremental costs for any reserve capacity in excess of that provided for herein shall be paid solely by the grantee. Incremental costs include all costs which would not have been incurred but for the additional reserve capacity.

(Effective August 22, 1985)