Sec. 25-32d-3. Contents of the plan

Each water supply plan submitted shall evaluate the water supply needs in the service area of the water company and propose a strategy to meet such needs. The plan shall contain:

(a) A description of the existing water supply system, including:

(1) The legislative or franchise authority for the areas proposed to be served by the plan;

(2) a list and description of: service areas; sources of supply, including active, emergency and inactive sources, with a description of what portion of the service area is served by each source of supply; pump stations; and storage and treatment facilities;

(3) a map of: water company owned lands, service areas, sources of supply, interconnections, pumping stations, pressure zones, source water protection area boundaries, storage, treatment facilities, public or privately-owned protected lands.

(4) a map and description of existing transmission and distribution facilities, including age, materials, capacity and condition, if known;

(5) a description of meter reading and testing program and extent of metering;

(6) a schematic of the water supply system's hydraulic profile;

(7) a general discussion of the water supply system's fire flow capabilities;

(8) the calculation of the safe yield of each source of supply in accordance with Section 25-32d-4 of the Regulations of Connecticut State Agencies;

(9) a summary of monthly system production data by sources of supply and a summary of system average daily demands, maximum month demands and peak day demands for the previous five years;

(10) a list, description, and map of existing interconnections, and the quantities of water sold to or purchased from other water companies during the previous five years, and any limitations on their use;

(11) a history of water quality violations in each water supply system for the previous five years and a trend analysis for water quality parameters that may be approaching water quality standards;

(12) a description of the watershed inspection program required pursuant to subsection (b) of section 19-13-B102 of the Regulations of Connecticut State Agencies and the cross connection inspection program required pursuant to subsection (f) of section 19-13-B102 of the Regulations of Connecticut State Agencies, and demonstration of compliance with certification requirements pursuant to sections 25-32-7a to 25-32-14, inclusive, of the Regulations of Connecticut State Agencies;

(b) An analysis of present and future water supply demands for the five, twenty, and fifty year planning periods, including:

(1) A description of the present population distribution patterns and population served;

(2) data and an evaluation of current and historic water use in each water supply system for the past five years of record, or since the most recent submittal of a water supply plan, including average daily, maximum month and peak day demands and sales to other water companies. Water companies that have this data compiled by user categories shall provide data in that form;

(3) a description of local, state and regional land use plans, policies and zoning as related to projected water demands and future service areas;

(4) projected water demands for the five, twenty and fifty year planning periods, A 4

including sales to other water companies, based on user categories if data is available, and local land use plans and zoning regulations;

(5) an assessment of population changes within existing and future service areas for the five, twenty, and fifty year planning periods using the Office of Policy and Management's most current population data and projections, including an explanation of any deviations thereto and maps depicting the existing and future service areas;

(6) identification of any sources of supply that will no longer be used to meet system demands or any sources of supply to be abandoned;

(7) an analysis of the relationship between available water and average daily demand as determined for the most recent representative period of record not affected by unusual demand conditions such as drought or a significant temporary increase in demand, maximum month demand and peak day demand and the margin of safety to be maintained by the water company currently and for the five, twenty, and fifty year planning periods;

(8) demonstration that the margin of safety is sufficient to meet the water company's current and future needs considering factors such as potential increases or decreases in demand, the time required to bring new sources of supply on line, potential losses of sources of supply or decreased capacities, land area available for development, available interconnections and other factors which may increase or reduce supply or demand;

(9) an analysis of any treatment limitations, water quality concerns, or distribution system limitations and the ability to meet demands currently and for the five, twenty and fifty year planning periods; and

(10) an analysis of any system improvements necessary to minimize the effect of a water supply emergency on critical system components as identified in subdivision (1) of subsection (d) of this section.

(c) An assessment of potential alternative sources of supply, including:

(1) An analysis of alternatives to allow the use of inactive or emergency sources of supply and the safe yield of existing active sources of supply beyond any current limitations in order to meet demands currently and in the five, twenty and fifty year planning periods;

(2) an evaluation of potential new sources of supply and a description of existing state, local and regional land use plans, policies, classifications and zoning as they relate to source development;

(3) identification of potential or historic pollution sources which may affect any new source of supply; and

(4) a demonstration of the ability of the selected alternatives to meet future system demands, including a conceptual implementation plan.

(d) A water supply emergency contingency plan, including emergencies due to contamination of water, power outages, drought, flood or failure of any or all-critical system components. Such water supply emergency contingency plan shall include:

(1) A list identifying critical system components and potential water supply emergencies that may affect them including contamination, power outages, drought, flood or failure, but excluding routine events, such as water main breaks and inoperable valves;

(2) A list identifying significant user groups in commercial, industrial, municipal and residential categories, and discussions of mechanisms of direct technical assistance to these significant quantity user groups.

(3) a description of the level of service to be sustained during water supply emergencies, including identification of priority users, procedures for public notification of priority users, and the means for provision of essential potable water to priority users where priority is based on the potential risk to health, safety and welfare posed by the curtailment of service; and procedures for advance notice to users for which service may be suspended if rationing is required and for implementation of rationing and use bans;

(4) procedures for responding to toxic spills or hazardous materials that may contaminate a watershed or aquifer used for drinking water;

(5) an inventory of equipment needs and availability, including location of existing emergency equipment, generators and spill response materials, identification of additional emergency equipment needs, and procedures for obtaining additional equipment or services;

(6) a list prioritizing emergency sources, including interconnections and independent industrial and commercial water supplies within the service area, and describing contractual, technical and financial requirements for their use, a schedule for activation, available yield and known water quality problems or limitations;

(7) procedures for notification of local, state and federal officials and the public;

(8) a description of duties and responsibilities of key personnel involved in emergency response actions, and a procedure for contacting and scheduling staff;

(9) a description of local ordinances and municipal authority to implement water use restriction.

(10) a description of four stages of response during drought based emergencies, including identification of trigger levels which initiate each stage based on water supply availability and demand situation, reservoir storage levels, or critical operational indicators, including storage tank recovery, pumping capacity, or for groundwater dependent systems, the number of hours of continuous well pump operation. Additional trigger levels may include; precipitation, groundwater, stream flow, and reservoir levels, and also include, the Palmer Drought Severity Index, crop moisture index and fire danger index. The four stages of response shall include: a drought advisory, a drought watch, a drought warning, and a drought emergency. Triggers shall give sufficient lead time to adequately implement response actions. The plan shall include the following stages and actions unless otherwise approved by the department:

(A) a list of actions to be taken in a drought advisory, including contacting the department and affected municipalities, evaluation of emergency source options, schedule for obtaining emergency equipment, implementation of internal measures to maximize use of existing active sources, promotion of voluntary conservation in residential, commercial and industrial facilities to reduce demand by ten percent from previous non-drought average for the appropriate month, preparation for mandatory conservation including necessary enforcement mechanisms, activation of the budget process for funding necessary projects;

(B) a list of actions to be taken in a drought watch, including contacting the department, preparing emergency sources for use, implementation of voluntary conservation to reduce demand by an additional five percent for a total of fifteen percent from previous non-drought average for the appropriate month, coordination with local officials concerning alternative facilities for obtaining water, reevaluation of priority among users and those actions required under previous water supply emergency contingency plan stages;

(C) a list of actions to be taken in a drought warning, including contacting the department, activation of emergency sources upon department approval, institution of mandatory conservation to reduce demand by an additional five percent for a total of twenty percent from previous non-drought average for the appropriate month, initiation of weekly reporting of reservoir water supply status to the department and those actions required under previous water supply emergency contingency plan stages; and

(D) a list of actions to be taken in a drought emergency, including contacting the department, activation of emergency sources upon department approval, institution of the second phase of mandatory conservation to reduce demand by an additional five percent for a total of twenty-five percent from the previous non-drought average for the appropriate month, coordination with local officials for the provision of emergency services for bathing and obtaining drinking water for the highest priority users, enforcement of measures through local ordinances and state and municipal authorities and those actions required under previous water supply emergency contingency plan stages; and

(11) a signed statement by the water company's chief executive officer attesting to the existence of procedures for sabotage prevention and response. For security and safety reasons, procedures for sabotage prevention and response shall not be submitted for state agency review.

(e) Recommendations for new water system development or system improvements, including:

(1) A conceptual plan for improvements necessary to meet current and projected water demands for the planning periods, to serve current and future service areas, and to minimize the effect of a water supply emergency, limited to improvements for transmission, pumping, emergency power generation, storage and treatment to deliver water to the projected service areas;

(2) identification of improvements in subdivision (1) of this subsection which are anticipated to be implemented in the five year planning period and a proposed schedule for implementation; and

(3) a conceptual implementation plan for the items identified in subdivision (1) of this subsection for the twenty and fifty year planning periods.

(f) A forecast of future land sales that includes a list of the address, associated source of supply and acreage included for each anticipated parcel of land projected to be sold during the five, twenty and fifty year planning periods and other information required by section 25-32d(b)(6) of the Connecticut General Statutes;

(g) A plan for strategic ground water monitoring in conformance with the strategic groundwater monitoring plan required pursuant to section 22a-354aa of the Connecticut General Statutes; and

(h) An analysis of the impact of water conservation practices and a strategy for implementing supply and demand management measures, as follows:

(1) The water conservation plan shall be designed to meet the specific needs of the water supply system for which it is designed. In all cases the plan shall be designed to increase the efficiency of the system, reduce waste and encourage consumer water conservation efforts.

(2) Water conservation plans shall include both demand management and supply

management measures and address short and long-term water conservation. The measures that will be implemented and the implementation schedule shall depend on the specific needs of the water supply system and its ability to meet current and future water system needs. There shall be detailed discussion of each water conservation measure which shall include the following:

(A) objective;

(B) assessment of current conditions including deficiencies, if any;

(C) activities and measures taken or to be taken to achieve or maintain the objectives; and

(D) procedures for implementation, including an identification of the groups and agencies which need to be involved.

(3) The demand management section of the water conservation plan shall be designed to reduce peak day demand or average daily demand or both, depending upon the condition of the system, and shall include at least the following information:

(A) goals and objectives for demand management;

(B) strategies to reduce maximum month and peak day demands;

(C) existing demand management elements including a detailed description of each element with the dates or period of introduction;

(D) alternative demand management solutions to supply deficiencies, if applicable, including the feasibility of establishing a no demand increase policy for new service connections, which would require potential customers to invest in water saving programs within the existing system which would save the amount of water needed to serve new development;

(E) a program to provide technical assistance to major users in the performance of water audits and in the formulation and implementation of retrofitting. Such programs shall:

(i) provide a list of the current major users with their annual water use for the last year of record in gallons per day, and type of use, prioritizing those which have the greatest potential to conserve water;

(ii) describe and evaluate the water audit programs available to the major users, including the following categories of water use: process, sanitary, domestic, heating, cooling and outdoor, for each customer; the areas in which overall efficiency of water use can be improved, and an estimate of water savings if improvements are made;

(iii) address recycling, reuse, process changes, replacement or retrofitting, and other efficiency measures; the areas in which peak demands can be reduced and the estimated amount of the reductions; leak detection services which can be offered to consumers; a written report to the customer, with specific recommendations, projected water savings, implementation cost estimates and pay-back period estimates;

(iv) report on past program accomplishments since the last water supply plan, including the number of audits performed, and a summary of estimated water use reduction achieved; and

(v) describe any additional technical assistance that has been undertaken or is planned;

(F) plumbing retrofit programs that:

(i) briefly describe any residential retrofit program since the last water supply plan; and

(ii) describe how water companies that are supply deficient or anticipate development

of a new source of supply within the next ten years will investigate ways to encourage residences to retrofit with additional efficient and water-conserving appliances and fixtures and ways to encourage the retrofitting of process and domestic uses of commercial, industrial, and institutional users;

(G) water rates and pricing information that:

(i) discusses the present rate structure; and

(ii) assesses rate structure alternatives and frequency of billing to evaluate their anticipated impact on water conservation. Rate structure alternatives to be assessed include: eliminating or consolidating the blocks of existing declining block rate structures; implementing a separate uniform metered rate for each user category or for all consumption by the elimination of declining block rates; minimizing customer service charge that will recover no more than the minimum costs of reading meters, billing of customers, and meter-related costs; implementing seasonally increased rate structures to reduce peak demands; implementing an inclining block structure for all metered consumption or for each user category; for water companies not regulated by the Department of Public Utility Control, assessing enterprise fund accounting with a program for establishing full-cost pricing and self-sustaining budgets; and

(H) a public education program that:

(i) addresses water conservation for all residential, industrial, commercial, institutional, agricultural, and public authority customers, and evaluates the following components for inclusion: advice to local hydrant users about proper utilization and maintenance of hydrants; bill stuffers; consumer education on self monitoring using home water meters; displays at home shows, fairs, libraries, and town halls; displays or information regarding water efficient plantings and gardening methods and native landscaping; education program for municipal and water company employees; notification to customers with unusually high recorded uses to check for household leaks; newspaper and magazine articles; pamphlets, handbooks, posters, newsletters, and billboards; information to homeowners on more efficient means of watering lawns and ornamental shrubs; speakers on various water conservation topics; and school programs. If there is an existing program, it shall discuss how it can be continued or, if necessary, what improvements should be made in the program;

(ii) describes how the program of public education will be implemented; and

(iii) addresses compliance with sections 25-32k and 25-32*l* of the Connecticut General Statutes, to provide to residential customers, without charge, educational materials or information on water conservation.

(4) The supply management section of the water conservation plan shall:

(A) state the goals and objectives for supply management;

(B) discuss a meter management program, with the discussion including:

(i) a schedule for one hundred percent source metering in compliance with subsection (n) of section 19-13-B102 of the Regulations of Connecticut State Agencies within five years, if all sources of supply are not currently metered; details on the current source meter reading, testing, calibrating, repair, and replacement program; the adequacy of the metering program and a schedule of activities necessary to correct deficiencies and to achieve source metering objectives; and the extent of metering of other major system components; and

(ii) the extent of consumer metering, plans to expand metering, and the current frequency

of meter testing, maintenance and calibration, and the replacement rate; the benefits of metering all individual, residential, commercial, industrial, and public authority customers, if no metering is in place or if there is only partial metering; whether existing meters are of appropriate size and design type; and if meter downsizing should be implemented to reduce lost water;

(C) determine, by means of an annual evaluation of the water supply system, the amount, location, and causes of non-revenue water; discuss the annual water system evaluation process based on the actual evaluation data from the previous five years, or if such data is unavailable, on the most current calendar or fiscal year data; and discuss the results and conclusions of such evaluations and where applicable plans to reduce non-revenue water; and

(D) discuss the current leak detection and repair program and any plans to expand leak detection efforts and plans to reduce water lost from leaks, including the following:

(i) an explanation of the method used for leak detection and description of the sensitivity of the equipment used;

(ii) a discussion based upon the most recent leak detection survey, if one has been performed, of the number of leaks found, the number fixed, the estimated amount of water saved, and the existing leakage rate in gallons per day per mile;

(iii) a discussion of the existing and projected costs of this program and an evaluation of the cost effectiveness of further distribution system rehabilitation to correct sources of lost water; and

(iv) if leak detection and repair objectives have been achieved, a discussion of the planned continuing maintenance program to retain and achieve the lowest leakage rate feasible; and

(E) evaluate the effects that a pressure reducing program would have with respect to water conservation and discuss plans to reduce water losses through pressure reduction.

(5) A five year implementation plan shall be developed providing a schedule and estimated budget for implementing selected demand and supply management measures.

(6) This analysis of the impacts of water conservation practices shall discuss the procedures and criteria to measure the effectiveness of the water conservation measures to be implemented.

(i) Provide an evaluation of source water protection measures. The evaluation shall analyze potential hazards to public drinking water sources of supply. This evaluation shall also, at a minimum, include the following information:

(1) Drinking water sources of supply identified in the 5-year planning period of the approved water supply plan, including all active, emergency, and future drinking water sources of supply;

(2) Identification of critical lands to be protected, in table format, including: number of acres by town for all water company-owned lands; percentage or acreage of land owned or controlled within 200 feet of ground water wells, through easement or other means; number of acres for all source water protection areas; and number of acres of public or privately-owned protected lands located within each source water protection area if known or available;

(3) An inventory of land use activities for each delineated source water protection area,

in table format, that are of immediate concern to water quality, or have a significant potential to contaminate a public drinking water supply, as determined by a public water system. Such inventory shall be based on: 1) source water assessment reports developed by the Department of Public Health and; 2) inspection reports or survey data, or both, compiled or maintained by the public water system. The following supportive information shall also be provided:

(A) For each delineated source water protection area: a description and location of inventoried land use activities with significant potential to contaminate; and an assessment as to which of these activities are the most significant regarding the potential to contaminate a public drinking water source of supply.

(B) Description and location of any historic spills, discharges or environmental issues which occurred within the delineated source water protection area, that may affect sources of supply, or are of immediate concern to water quality;

(C) A compilation of untreated water quality data for each source of public drinking water, required under section 19-13-B102(c) of the Regulations of Connecticut State Agencies for the previous five years, and a summary analysis of such data. Test results, if available, for volatile and synthetic organic chemicals shall also be included in the compilation and summary analysis.

(4) A narrative describing:

(A) Land use activities with the most significant potential to contaminate, as assessed and identified in subdivision (3)(A) of this subsection;

(B) Information about plans or programs to reduce potential public health risks for each inventoried land use activity of immediate concern to water quality, to include;

(i) Engineering controls,

(ii) Drinking water source protection management plans,

(iii) Recognized best management practices or other strategies.

(C) Existing state, local, and regional land use plans, policies, classifications and zoning ordinances as they relate to drinking water source protection within the source water protection area; and

(D) The public water system's drinking water source protection program including a discussion of measures to strengthen source water protection within each delineated source water protection area.

(Adopted effective August 10, 2000; Amended August 3, 2006)