

216-RICR-50-05-7

TITLE 216 – DEPARTMENT OF HEALTH

CHAPTER 50 – ENVIRONMENTAL HEALTH

SUBCHAPTER 05 - WATER QUALITY

PART 7 – Clean Water Infrastructure Plans

7.1 AUTHORITY

- A. These rules and regulations are promulgated pursuant to the authority conferred by R.I. Gen. Laws § [46-15.6-7](#).
- B. The terms and provisions of the rules and regulations shall be liberally construed to allow the Department of Health to effectuate the purposes of the state law, goals, and policies consistent with the R.I. Gen. Laws Chapter [46-15.6](#).

7.2 PURPOSE

- A. The waters of this state are a critical renewable resource which must be protected to insure the continued availability of safe and potable drinking water for present and future needs. It is a paramount policy of the state to protect the purity of present and future drinking water supplies by protecting the infrastructure of potable water, including sources, treatment plants and distribution systems. The decay of water supply infrastructure due to deterioration or functional obsolescence can threaten the quality of water supplies and therefore can endanger public health. Therefore, it is necessary to take timely and continuing steps to repair and replace the infrastructure used to treat and deliver drinking water from public water suppliers.
- B. By planning and funding for future infrastructure replacement, unexpected large capital expenditures causing sudden increases in water rates can hopefully be avoided. The intent of this Infrastructure Replacement Plan is to provide a planning and funding mechanism to ensure that infrastructure replacement programs are carried out by each municipality, district, agency, authority, or other entity engaged in the supply, treatment, transmission, and/or distribution of drinking water.
- C. Goals of the plan include the justification of a facility replacement program, the provision of a dedicated and sufficient funding mechanism, the prioritization of infrastructure replacement, and the prevention of the erosion of drinking water infrastructure.

7.3 DEFINITIONS

- A. Wherever used in this Part, the following terms shall be construed as follows:
1. “Audit” means the annual formal examination of the water supplier's financial statements including all investments, interest, expenditures, and operating costs.
 2. “Commission” means the Public Utilities Commission (PUC) of the State of Rhode Island.
 3. “Comprehensive plan” means the Comprehensive Plan adopted and approved in accordance with R.I. Gen. Laws Chapter [45-22.2](#), the RI Comprehensive Planning and Land Use Regulation Act. A document prepared by each local municipality which contains the planning and implementation program for land use, housing, economic development, natural and cultural resources, services and facilities, open space and recreation, and circulation.
 4. “Department” means the Department of Health (DOH), Division of Drinking Water Quality.
 5. “Distribution facilities” means the pipes and appurtenant facilities employed specifically to deliver, to dispense, to render or to circulate potable water directly to the consumer.
 6. “Drinking water” means potable water served to the public.
 7. “Economic life” means the expected financial lifespan of a component of a public water system which is used to depreciate the capital expense of the component.
 8. “Eligible expenditures” means those costs and expenses necessary to fund, manage, and implement the infrastructure replacement plan, only. This may include associated accounting fees, consulting fees, replacement construction, etc.
 9. “Infrastructure” means the permanent underlying framework of the public water system, including but not limited to, supplies, transmission, storage, distribution, pumping, and treatment facilities.
 10. “Life expectancy” means the expected physical lifespan of a component of a public water system.

11. "Maintenance" means a planned program of inspection, adjustment, exercise, lubrication, etc. which allows the maximum continuous service of the equipment in the system at the lowest possible cost to the utility as required in the Water Resources Board "Rules and Procedures for Water Supply Systems Management Planning" § 8.07(c). Routine maintenance expenditures are not eligible for funding from the Infrastructure Replacement Plan.
12. "Rate fee" means the charge per unit for public water based upon a ratio, scale, or standard relative to the cost of supplying potable drinking water.
13. "Rehabilitation" means rehabilitation which restores existing facilities or components to a condition which extends the physical and economic life of the component. Rehabilitation is an eligible expenditure under the Infrastructure Replacement Plan.
14. "Repair" means expenditures to return into service a component of the infrastructure that has failed is not an eligible expenditure under the Infrastructure Replacement Plan.
15. "Replacement" means new construction to substitute for existing facilities or components which cannot be rehabilitated or repaired cost effectively is an eligible expenditure under the Infrastructure Replacement Plan.
16. "Special account" means an account established by physically opening an account designated as the "Infrastructure Replacement Fund" that is acceptable under this Part. This account shall be self-contained in that deposits and withdrawals are recorded by the financial institution through a fiduciary relationship with the utility. This special account shall be a restricted receipt account dedicated solely for funding of eligible expenditures from the infrastructure replacement program and be administered by the general manager of the water supplier or his designee. All receipts, income, and interest earned on these funds shall be accrued within this special account.
17. "Surcharge" means a fee charged in addition to normal system rate fees which is used to fund extraordinary or special conditions of the water system.
18. "Transmission facilities" means the pipes, pumping stations, and storage facilities required to carry raw and/or potable water from a water source to or throughout an area served or to be served by a water supply system for the specific purpose of supplying water to support a general population.

19. “Water supplier” means any municipality, municipal department, agency, district, authority, or other entity engaged in or authorized to engage in the supply, treatment, transmission, or distribution of drinking water on a wholesale or retail sales basis.
20. “Water supply sources” means Department of Health approved sources of supply connected to a water supply system and available for distribution. These sources may be surface waters or groundwater wells.
21. “Water supply management plan” means a plan prepared by applicable public water suppliers which plans and implements effective and efficient conservation, development, utilization, and protection of water supply resources consistent with the present and future needs of the State and its people as defined in R.I. Gen. Laws § [46-15.4](#).

7.4 APPLICABILITY - PREPARATION OF PLANS

All water suppliers which supply, obtain, transport, distribute, purchase, and/or sell on a wholesale or retail basis, more than fifty million (50,000,000) gallons of water per year shall be required to prepare, maintain, and carry out a clean water infrastructure replacement plan as described in this Part.

7.5 CONFORMITY WITH OTHER LEGISLATION

The clean water infrastructure replacement plans shall be in conformity with all applicable provisions of state and federal laws including the federal Safe Drinking Water Act (42 U.S.C. § 300f *et seq.*); and R.I. Gen. Laws Chapter [46-13](#), Public Drinking Water Supply. Infrastructure replacement plans must be consistent with the Comprehensive 3 Plan for the community or communities associated with the water system. Infrastructure replacement plans shall also be consistent with the water supply management plans required under R.I. Gen. Laws § 46-15.3-5.1.

7.6 CONTENTS OF PLANS

- A. Clean water infrastructure replacement plans shall be prepared in the format, and shall address each of the topics listed in this section, to the extent that each is relevant to the water supplier, the water source, the water system, and the transmission/distribution/storage system. Systems which currently have an infrastructure replacement plan may review the existing plan and utilize existing information to the extent that it is consistent with the intent of the infrastructure replacement plan outlined below. The initial plan may include a schedule for the completion of the evaluation of major components or items which require detailed investigation. The schedule must demonstrate an expeditious, responsible, and reasonable time period for compliance.

B. All principal components of the water system such as sources, reservoirs, dams, spillways, intakes, treatment plants, pump stations, storage facilities, pumping and well equipment, shall be listed and evaluated. Relatively small and numerous components of the system such as water mains, distribution piping, valves, hydrants, and interconnections may be evaluated as a group. This evaluation shall consider the following:

1. A brief description of the system with a schematic of the process flow will be included in the plan. This description of the system may be taken directly from the Water Supply Management Plan where relevant and is not intended as a duplicate effort but to facilitate the evaluation of individual components. Age and condition of the existing component and the necessity for replacement of the component within a twenty (20) year time frame shall be evaluated. Specific components may be in need of immediate replacement while others may extend well beyond the twenty (20) year time frame. Replacement should be evaluated and prioritized over a minimum of five (5) year intervals. The level of detail in the analysis of the component should reflect the priority of the component to the proper operation of the system as well as the age and known condition of the component. A detailed schedule for the initial five (5) year interval must be included. No infrastructure replacement construction is required to take place within any time interval if demonstrated to not be necessary.
2. Life expectancy of the component shall be determined. Life expectancy shall be determined by design criteria, specific site conditions, maintenance records, manufacturer's documentation, engineering evaluation, physical inspection, invasive and/or non-destructive integrity testing, or a combination of all of the above. Records of inspection and maintenance may be reviewed when determining the life expectancy of the component. The attached Component Life Expectancy and Actual Life Expectancy Guideline ("Guideline"), in § 7.9 of this Part, is intended to serve as a general rule of thumb for component life expectancy and actual life expectancy within an individual system may be demonstrated to be significantly more or less than the Guideline value.
3. Consideration shall be given to the public water system's ability to meet current and future requirements of the Safe Drinking Water Act. Treatment requirements should be analyzed to the extent possible to ensure that infrastructure replacement and/or rehabilitation will comply with mandated requirements consistent with the Safe Drinking Water Act.
4. A financial forecast shall be based on the analysis of the condition and life expectancy of the existing facilities, prioritized needed repairs and replacements and amortize proportionally such improvement requirements

on an annual basis over the next twenty years consistent with their respective life expectancy. The forecast shall include contingency costs, range of construction costs, and/or confidence limits of the financial forecast.

5. Infrastructure replacement shall meet the needs of the water suppliers, however priority of anticipated replacement and grouping of replacement projects by time of replacement, similarity of projects, and importance of the component to the system shall be considered when establishing the schedule. Priority should be given to components which have a known need for replacement and less detailed analysis given to relatively new infrastructure items.
- C. When planning infrastructure replacement, the water supplier shall consider sizing facilities to meet the approved local comprehensive plans for existing or proposed service areas. The existing or proposed service area shall be defined consistent with that described in the supplier's most recent Water Supply Management Plan. Funding for proposed expansion shall come from the capital improvement program utilizing new capital rather than from replacement funding. It is intended that the infrastructure replacement plan evolve from the Water Supply Management Plan and expand the concepts of capital improvement planning initiated in the Water Supply Management Plan. The infrastructure replacement plan shall be consistent with sound waterworks practice.
 - D. The infrastructure replacement plan must recognize and maintain existing fiscal controls and accounting standards in accordance with Generally Accepted Government Accounting Principles sufficient to ensure fiscal responsibility for the evaluation and implementation of the infrastructure replacement. These fiscal controls and accounting standards must be established where none currently exist. The financial requirements of the plan shall conform to those outlined in § 7.8 of this Part.
 - E. Funds from the watershed protection fund may be used for the preparation of clean water infrastructure replacement plans up to fifty percent (50%) of the cost of the plan. Disbursements from the fund shall be in accordance with R.I. Gen. Laws Chapter [46-15.3-11](#) of the Public Drinking Water Resources Board Operating Fund. The remaining costs are eligible for funding through the Safe Drinking Water Revolving Loan Fund. The plan shall incorporate the proposed rate structure impacts, schedule of proposed rate changes, and schedule for full funding consistent with the funding requirements for scheduled infrastructure replacement.

7.7 REVIEW OF PLANS

- A. Water suppliers subject to the requirements of this Part shall file six copies of the clean water infrastructure plan with the Center for Drinking Water Quality of the Department. Plans must be submitted no later than one year subsequent to the date the system's water supply management plan is due.
- B. The Department shall coordinate review of the plan with the Department of Environmental Management's Division of Water Supply Management, the Department of Administration's Division of Planning, the Water Resources Board, and the Public Utilities Commission. The PUC shall only review Plans for those systems which are regulated by the PUC. Each Department shall have one hundred twenty (120) days to review the plan and submit comments to the Department of Health. Upon consideration of the comments, the Department shall determine if the plan complies with the requirements of this Part within two hundred forty days (240) of the initial submission. A thirty (30) day public comment period is inclusive in this two hundred forty day (240) review period.
- C. Water suppliers shall review and update their infrastructure replacement plans at a minimum frequency of every five years. Major modifications or revisions to the infrastructure replacement plan shall be submitted for review more frequently as necessary.
- D. Water suppliers shall implement the infrastructure replacement plan according to the approved plan. On-site review of facility components may be conducted by the Department when appropriate and/or applicable. The responsible official of the water supply system shall be required to verify that construction expenditures are consistent with the plan.

7.8 FINANCING INFRASTRUCTURE IMPROVEMENTS

- A. Each water supplier subject to the requirements of this Part shall establish a separate special account designated as the Infrastructure Replacement Fund to be held as a restricted receipt account and to be administered by the water supplier solely to implement and carry out the replacement or rehabilitation of infrastructure in accordance with the approved plan. The dedicated account should be invested in accordance with the standards established for the agency, municipality, or water supplier.
- B. The costs of programs to implement infrastructure replacement shall be paid by the users of the water system at a rate directly proportional to the users' consumption of water. Charges shall be limited to those necessary and reasonable for implementation of the plan. These charges shall be based upon

the annual funding requirements of the facility improvements necessitated over each successive twenty (20) year period.

- C. Interest earned on this account shall be credited to this account only. Accumulated funds in excess of that estimated to be necessary to implement the plan shall revert to the rate payers of the system on a biannual basis. Funds will be allowed to accumulate with the intent to build sufficient capital to finance the estimated costs of major projects. It is understood that annual investments may be necessary over many years to fund major projects. Funds accumulated that are in excess of that estimated to implement the plan will cause the water supplier to reduce the future charges for infrastructure replacement.
- D. Water suppliers may alternatively fund the infrastructure replacement program through partial or complete external funding at the option of the water supply system. Debt service and debt service issuance costs for any and all funding shall be an eligible expense as part of the program's funding requirements.
- E. The Public Utilities Commission, as to water suppliers within its jurisdiction, shall permit an increase for just and reasonable infrastructure replacement in the portion of the water suppliers' rate structure to comply with this Part and shall allow the water supplier to add this required funding to its rate base in accordance with this Part. Proposed increases in rates by regulated water utilities to finance infrastructure improvements shall be filed and reviewed in conformance with R.I. Gen. Laws Title [39](#).
- F. The applicable section of the water supplier's annual audit shall be submitted to the Department to verify compliance with the funding intentions of the infrastructure replacement plan. The dedicated fund for infrastructure replacement will be a separate line item in the audit. Financial and summary status reports shall be submitted for each on-going project which outlines funds spent on the project, funds remaining, percentage of completion, and a brief description of work completed and work remaining. Project expenditures must be consistent with the plan and be eligible expenditures under the plan. Audits shall be submitted within 180 days from the end of the water supplier's fiscal year. Extensions will be allowed for reasonable cause.

7.9 Component Life Expectancy and Actual Life Expectancy Guideline

7.9.1 Typical Life Expectancy

- A. Source of Supply Plant
 - 1. Structures and improvements: 35-40 years

2. Collecting/Impounding reservoirs: 50-75 years
 3. Intake structures: 35-45 years
 4. Wells and springs: 25-35 years
 5. Galleries and tunnels: 25-50 years
 6. Supply mains: 50-75 years
- B. Pumping Plant
1. Structures: 35-40 years
 2. Pumping equipment: 10-15 years
 3. Other pumping plant: 20 years
- C. Water Treatment Plant
1. Structures: 35-40 years
 2. Water treatment equipment: 15-20 years
- D. Transmission/Distribution
1. Structures: 35-40 years
 2. Reservoirs and tanks: 30-60 years
 3. Mains: 50-75 years
 4. Services: 30-50 years
 5. Meters: 15 years
 6. Hydrants: 40-60 years
- E. General Plant
1. Structures: 35-40 years
 2. Furniture/equipment: 15-20 years
 3. Transportation equipment: 7 years
 4. Stores equipment: 10 years

5. Tools, shop equipment: 7-10 years
6. Laboratory equipment: 10-15 years
7. Power operated equipment: 10 years
8. Communication equipment: 10 years

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