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§ 503.1 General

The provisions of this Part shall apply to water corporations providing service to 4,000 or more year-round customers. The standards relating to service interruptions contained in section 503.3 of this Part shall apply to all water corporations under the commission's jurisdiction. In providing service to its customers each water corporation shall comply with the recommended standards for waterworks, policies for the review and approval of plans and specifications for public water supplies, 1987 Edition (hereinafter referred to as the Ten State Standards) as described in section 10.3 of this Title. The text of the Ten State Standards appears in 16 NYCRR section 5-1.22(b) of this Title, Appendix 5-A. Compliance with the standards in this Part does not release a water corporation from complying with all other applicable laws, rules and regulations as promulgated by other governmental bodies. Nor does compliance with these standards release a water corporation from implementing other operating practices, maintenance programs or planning measures which may be necessary to preserve the immediate or long-term viability of the water system and to provide safe and adequate service to its customers.

§ 503.2 System pressures

(a) System pressures. Minimum working pressure (the pressure under all conditions except fire flows) in all portions of the water corporation's distribution system should not be less than 35 pounds per square inch (psi). Additionally, for new water plant construction designed to serve five or more customers, the minimum design pressure should also be an amount that, upon calculation, would theoretically be sufficient to maintain 15 psi at an 8 gallons per minute (gpm) flow at the meter. If this condition is not met, but the pressure on the company's main in the immediate area satisfies the 35 psi requirement (or has been exempted from such requirement by the commission), it will be the responsibility of the developer/owner of new properties requesting service to make all modifications necessary to meet the pressure and flow standard required at the meter. The maximum customer pressure at the building line should be 100 psi, except where differences in elevation require pressure higher than 100 psi in order to meet the minimum working pressure in other parts of the distribution system. In such cases where the system pressure exceeds 100 psi, the company should attempt to reduce the pressure to 100 psi by creating a separate pressure zone or installing pressure-reducing valves in the distribution system. If a company can demonstrate that this is impractical due to excessive cost or engineering considerations, the customer will have the option of installing an individual pressure-reducing valve. The customer exercising this option will be responsible for purchasing, maintaining and replacing such valve, and all costs associated therewith.

(b) Monitoring requirements. Each water corporation shall have the necessary equipment to record an individual customer's pressure and to make pressure surveys and record at least a 24-hour continuous test. Each water corporation shall monitor the system pressure in each pressure zone at or near the point of highest elevation in the zone, where the lowest pressures can be expected to be experienced, and shall report to the department on a monthly basis each instance when the pressure drops below the minimum working pressure as previously specified for a period of four hours or longer. Likewise, pressure will be monitored in each pressure zone at or near the point of the lowest elevation in the zone where the highest pressures can be expected to be experienced. This monitoring requirement may be satisfied by using the readings taken at one of the water corporation's regular operating stations provided that the water corporation can demonstrate that it can accurately extrapolate the pressures at the highest and lowest elevations from such readings.

§ 503.3 * Interruptions of service

(a) Interruptions of service. Each water corporation shall make reasonable efforts to prevent interruptions of service. When interruption occurs, the water corporation shall reestablish service within the shortest possible time period con-

sistent with the general safety and public welfare. Whenever service is to be interrupted for the purpose of scheduled maintenance, this work shall be done at a time which will cause the least inconvenience to customers provided that the schedule is compatible with local ordinances and does not result in substantial additional costs.

(b) Monitoring requirements. A record shall be kept by each water corporation of all interruptions to service having a duration of one hour or more, from any cause whatsoever, except those resulting from violation of the company's filed tariff regulations or customer-requested disconnections. Such records shall describe the nature, location, time, cause, extent and duration of the interruption. A record of that information shall be open for public as well as department inspection during the water corporation's normal business hours. Each water corporation shall immediately notify the fire department of each municipality affected, and upon written request of the municipality concerned the police department as well, of existing and/or proposed interruptions to service which may affect the continuity of service to fire flows for a period of one hour or longer. Where planned interruptions in water service, which are likely to exceed one hour in duration are anticipated, all customers who will be affected thereby shall be notified at least four hours in advance to permit them to prepare for the interruption in water service. As used in this section, a planned interruption is any interruption of which the company has prior knowledge and which has an anticipated time and duration. This would normally include all interruptions which are not of an emergency nature. Immediate notice by telephone or telefacsimile shall be given to the department by each water corporation of all interruptions to, or major impairments of, service of a duration of four hours or more which affect the continuity of service to five or more customers or one percent of the total number of customers served, whichever is larger, or which affect available fire flows. Notice shall also be given of any accident or damage to portions of the plant which might lead to such interruptions of service. If such interruption occurs after 4:45 p.m. and before 8:30 a.m., and notice is to be transmitted by telephone, such notice shall be given promptly on the next business day following the interruption. A written report of all such interruptions shall be filed with the department within five business days following that in which the interruption occurred.

* Applies to all water corporations regardless of size.

§ 503.4 Quantity of supply

(a) Quantity of supply. Every water corporation will file with the department a copy of its emergency plan for maintaining a reasonable supply of water during a drought or other emergency affecting the maintenance and delivery of a safe and adequate supply of potable water. A water corporation may submit a copy of the plan filed with and approved by the State Department of Health pursuant to *10 NYCRR 5-1.33*. The plan will include provisions for implementing water use restrictions and other conservation measures and for utilizing alternate and existing or potential emergency supplies.

(b) Surface sources. Each water corporation that employs a surface source of supply shall comply with the provisions of the Ten State Standards, with the additional requirement that the maximum projected demand shall take into consideration forecasted growth or decline in both the number of customers and in system usage for at least a 10-year period into the future. Also, such projections shall be updated on an ongoing basis and where they show that demand will exceed supply, the water corporation shall undertake all reasonable efforts to reduce and control future demands to bring them into balance with supply. If appropriate, the water corporation shall develop plans, consistent with existing State requirements, to secure additional supply.

(c) Groundwater sources. Each water corporation that employs groundwater sources of supply shall comply with the appropriate provisions of the Ten State Standards with the additional requirement that the numbers used for design average and maximum day demand shall reflect a projection of growth or decline in the number of customers and in system usage for at least a 10-year period into the future. Also, such projections shall be updated on an ongoing basis and where they show that demand will exceed supply the water corporation shall begin measures to control demand or, if appropriate, secure additional supply.

(d) Monitoring requirements. (1) Surface sources. Each water corporation shall submit to the department for approval as soon as possible, but no later than one year after the effective date of these standards, a plan to monitor source capacity and establish warning levels for declining source capacity. The plan's warning levels should be based upon original design demand and historical source levels so as to provide a warning when the source capacity falls below design capacity. Once the plan is implemented, which must occur no later than two years after the effective date of these standards, daily records shall be kept indicating source level or capacity, date, and location of reading for each source. The department shall be notified within one business day whenever the source level falls below the established warning levels.

(2) Groundwater sources. Each water corporation having a groundwater source shall equip each of its well pumps with a timing device which indicates time operated on a 24-hour basis. Each company shall have the resources to meter the discharge of each well under normal operating conditions. Readings shall be taken and recorded on a daily basis and shall indicate the discharge of each well or group of wells on a common discharge line, time of operation, well identification, date and time of day recorded. The chart produced by an automatic flow recording device shall be sufficient to satisfy this requirement. For the purposes of this rule, a group of wells from which water is withdrawn by a common source of suction shall be considered a single well. Production meters shall be calibrated every two years. At least once every three years each water corporation will conduct tests to determine the specific capacity of each well authorized for use and the actual capacity of each well's pump. As used in this Part, specific capacity shall refer to the yield of a well in gallons per minute per foot of drawdown. The results of these tests will be reported to the department within 10 business days if the specific capacity results indicate a 10 percent or greater decrease in specific capacity as compared with rated specific capacity or if the well pump capacity is less than 80 percent of the design rated capacity. The rated specific capacity of each source will be reported to this department within three months of enactment of these standards. Any changes in rated specific capacity of any source must be reported to this department within 10 business days.

(3) Additional monitoring requirements - total production. The average day design demand and maximum day design demand will be reported to this department within three months of enactment of these standards. The department will also be notified whenever:

- (i) actual maximum day production exceeds maximum day design demand; or
- (ii) actual average day production exceeds average day design demand on an annual basis.

§ 503.5 Atmospheric storage

The water level in all storage facilities shall be monitored twice daily, at those points in time at which the greatest and least amount of storage is normally found to exist, and records kept of levels by date and time or by continuous recording chart. The department will be notified annually by January 31st of the subsequent year whenever actual average day demand on an annual basis for systems supplied by wells exceeds total storage capacity plus the supply available from approved emergency interconnections, standby power and alternate sources.

§ 503.6 Valves, blow-offs and hydrants

(a) Valves and blow-offs. Each water corporation shall have a program to test each valve and blow-off and implement such program so that each valve and blow-off is tested at least once every five years. Upon staff's request, the details of the program will be submitted for its review and approval. Implementation of this program will begin no later than two years after the effective date of these standards. The provisions of this section shall not be applicable to service line valves.

(b) Hydrants. Each water corporation which provides public fire protection shall have a program to inspect and test each hydrant a minimum of once every three years with a minimum of one-third of the hydrants being inspected and tested annually. The method of inspecting and testing each hydrant will conform to the American Water Works Association Manual M-17, third edition, printed in 1989 and entitled Installation, Field Testing and Maintenance of Fire Hydrants, as described in section 10.3 of this Title. The implementation of this program will begin no later than two years after the effective date of these standards.

(c) Monitoring requirements. (1) Valves and blow-offs. The department shall be notified by January 31st of the subsequent year whenever the number of either valves or blow-offs not completely functional/operable and accessible exceeds five percent of the total of each tested during the preceding year, and the water corporation shall at the same time provide its plan for rectifying the problem and returning the system to compliance.

(2) Hydrants. The department shall be notified by January 31st of the subsequent year whenever the number of hydrants not completely functional/operable and accessible exceeds the limitations set forth in the table below on a proportionate basis for the number of hydrants tested during the preceding year. The department reserves the right to require more frequent testing should these limitations be exceeded.

Number of hydrants in system	Percent and number limit
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Less than 500	5% not to exceed 15
500 to 1,000	3% not to exceed 21
1,001 to 5,000	2% not to exceed 24
Over 5,000	0.5% of all hydrants

§ 503.7 Flushing

(a) Flushing. Each water corporation will have a properly engineered written flushing program and, upon staff's request, will submit the details of that program to staff for its review and approval. Each water corporation should flush its transmission and distribution system a minimum of once a year, except where it can be demonstrated that a particular system or portion thereof does not require flushing. This program shall be implemented no later than two years after the effective date of these standards.

(b) Monitoring requirements. Each water corporation shall maintain a record of the date, time and duration of each flushing sequence.

§ 503.8 Lost and unaccounted-for water

(a) Lost and unaccounted-for water. Each water corporation shall maintain records on an annual basis of nonrevenue producing water use and shall use prudent means to minimize lost and unaccounted-for water.

(b) Monitoring requirements. Each water corporation shall notify this department when annual nonrevenue producing water use, which would include lost and unaccounted-for water as well as other nonmetered uses of water, exceeds 18 percent of annual production. This notification will also include specific measures being taken to reduce nonrevenue producing water use to acceptable levels and a description of any significant event that impacted this level.

§ 503.9 Maps and records

(a) Maps and records. (1) Each water corporation shall maintain accurate, to scale, up-to-date maps which shall show the service territory.

(2) Each water corporation shall also maintain accurate, to scale, up-to-date supply diagrams and distribution maps which shall, at a minimum, include the relative locations and capacities of major sources of supply and production facilities, pumping stations, treatment plants, storage facilities, and transmission and distribution mains. The water corporation shall retain such maps and other information, as necessary, to enable it to promptly and accurately identify the location of mains, services, valves, hydrants and blow-offs.

(3) Records shall be kept for each valve, hydrant and service connection. Records for valves and service connections (including curbstops) will include the size and location while records for hydrants will include the size, location, manufacturer and identification number.

(b) Monitoring requirements. A map or maps showing the location of sources, storage, pump stations and the principal transmission and distribution mains within the service territory shall be submitted to the department as soon as possible but no later than one year after the effective date of these standards. Maps showing additions and significant changes thereto in each calendar year shall be submitted by March 31st of each succeeding year. If there are no changes in such calendar year, the water corporation shall simply notify the department in writing of this fact. Because of the necessity of such maps, any water corporation not possessing same shall begin an immediate program to prepare and file them. In the event such maps cannot be filed within the above-stated period, the water corporation shall request department approval for additional time to submit the maps. This request must be made within three months of the effective date of these standards.

§ 503.10 Inspection of new plant facilities

(a) Inspection of new plant facilities. No plant additions including backbone plant, storage, transmission and distribution mains shall be placed in service and no additional customers may be served until such additions have been inspected by qualified water corporation personnel under the direct supervision of an engineer licensed to practice in the State of New York. Construction of plant not being done by the water corporation which will become its property, such as construction by a real estate developer, will be inspected by qualified water corporation personnel or a representative of the water corporation under the direct supervision of an engineer licensed to practice in the State of New York and the water corporation shall be reimbursed for the costs of such inspection by the developer who is building the plant.

(b) Monitoring requirements. Inspection reports, which will include job identification, materials installed by billing units (where applicable) such as linear feet of pipe, number of valves and size etc., location of plant by physical measurements in the field and description of progress and quality of work performed, shall be maintained in the files for each job inspected.

§ 503.11 Maintenance of records

All records related to these service standards shall be available for inspection by staff of the department at an office of the water corporation in the county in which the waterworks is located. In addition, these records shall be kept on file for a period of six years.