

**WAC 246-290-230 Distribution systems.** (1) The purveyor shall size and evaluate new, or expansions to existing, distribution systems using a hydraulic analysis acceptable to the department.

(2) The minimum diameter of all distribution mains shall be six inches (150 mm) unless smaller mains can be justified by hydraulic analysis.

(3) Systems designed to provide fire flows shall have a minimum distribution main size of six inches (150 mm).

(4) Installation of new standard fire hydrants shall not be allowed on mains less than six inches (150 mm) in diameter. Existing fire hydrants on currently active mains less than six inches (150 mm) in diameter shall be allowed to remain provided:

(a) The existing distribution system consists of mains at least four inches (101.6 mm) in diameter, and the fire flow available from existing four-inch (101.6 mm) mains within the proximity of the fire hydrant exceeds the minimum fire flow standard adopted by the local fire protection authority; and

(b) The location and installation of the fire hydrants on the four-inch (101.6 mm) main have received approval by the local fire protection authority.

(5) New public water systems or additions to existing systems shall be designed with the capacity to deliver the design PHD quantity of water at 30 psi (210 kPa) under PHD flow conditions measured at all existing and proposed service water meters or along property lines adjacent to mains if no meter exists, and under the condition where all equalizing storage has been depleted.

(6) If fire flow is to be provided, the distribution system shall also provide maximum day demand (MDD) plus the required fire flow at a pressure of at least 20 psi (140 kPa) at all points throughout the distribution system, and under the condition where the designed volume of fire suppression and equalizing storage has been depleted.

(7) Booster pumps shall be designed in accordance with good engineering criteria and practices as listed in WAC 246-290-200.

(8) On existing systems, or for additions to existing systems, that are unable to meet the pressure requirements of this section, booster pumps for individual services may be used in the interim until system improvements are made to resolve pressure deficiencies. In this situation, the individual booster pumps shall be under the management and control of the purveyor.

(9) Transmission lines as defined in WAC 246-290-010 shall be designed to maintain greater than or equal to five psi (35 kPa) during normal operations, except when directly adjacent to storage tanks, and shall be sized according to a hydraulic analysis. Transmission mains designed to operate at velocities greater than ten feet per second shall include a hydraulic transient (water hammer) analysis in conjunction with the hydraulic analysis.

[Statutory Authority: RCW 43.02.050 [43.20.050]. WSR 99-07-021, § 246-290-230, filed 3/9/99, effective 4/9/99. Statutory Authority: RCW 43.20.050. WSR 94-14-001, § 246-290-230, filed 6/22/94, effective 7/23/94; WSR 93-08-011 (Order 352B), § 246-290-230, filed 3/25/93, effective 4/25/93; WSR 91-02-051 (Order 124B), recodified as § 246-290-230, filed 12/27/90, effective 1/31/91. Statutory Authority: RCW 34.04.045. WSR 88-05-057 (Order 307), § 248-54-135, filed 2/17/88. Statutory Authority: RCW 43.20.050. WSR 83-19-002 (Order 266), § 248-54-135, filed 9/8/83.]