

<b>Title</b> Distribution System Redundancy	<b>Number</b> WTR-410	<b>Rev. no.</b> 0
<b>Responsibility</b> Drinking Water Division	<b>Supersedes</b> N/A	<b>Pages</b> 1
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## 1. PURPOSE

This policy establishes the decision-making criteria that Seattle Public Utilities uses for adding or retiring redundancy in the water distribution system.

## 2. POLICY

Consider redundancy in the distribution system on a case-by-case basis, with decisions based on an evaluation of net present value.

- A. For new developments or redevelopments within the distribution system, require developers to install looped systems, intermediate line valves, and/or additional shut-off valves for dead-end water mains when SPU determines that the improvement provides a positive net present value to the water system in the area.
- B. Consider retiring existing redundant facilities within the distribution system when they are at the end of their economic life and the costs of a new facility exceeds the avoided risks costs.
- C. Consider adding redundancy within the distribution system when replacing existing facilities that have reached the end of their economic life or when performing repairs on existing facilities that require retail customer outages.
- D. To increase redundancy, consider installing temporary or permanent looped systems, cross-over valves, intermediate line valves, and/or additional shut-off valves in the distribution system when the improvement provides positive net present value to the system.
- E. When evaluating net present value of options over the life of the project, include the capital costs of installing the redundancy improvement and all O&M costs such as those to repair the new facilities or to flush any dead-end mains. Also include the benefits of any avoided risk costs, such as the costs of retail customer outages and temporary loss of fire flow.