

# **Background Briefing on the Total Coliform Rule and Distribution Systems**

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# Overview

- **Background**
  - **Legislative**
  - **Regulatory**
- **2000 Stage 2 Microbial-Disinfection Byproduct Advisory Committee Agreement in Principle**
- **2003 Six-year review decisions**

# Legislative Background

- Safe Drinking Water Act last amended in 1996
- EPA sets maximum contaminant level goals (MCLGs) at a level at which no known or anticipated adverse human health effects occur, with an adequate margin of safety
- Maximum contaminant levels are set as close as is feasible to the MCLG
- EPA may set an MCLG for any contaminant that:
  - May have an adverse effect on the health of persons
  - Is known to occur or there is a substantial likelihood of occurrence with a frequency and at levels of public health concern
  - Regulation of the contaminant presents a meaningful opportunity for health risk reduction

# Legislative Background

- When it is not economically or technologically feasible to determine the level of a contaminant, EPA can develop a different type of regulation called a treatment technique
- Most rules require systems to monitor for contaminants in the source water or at the entrance to the distribution system
  - For contaminants that may increase in the distribution system, monitoring must be conducted in the distribution system to determine the level in water delivered to consumers

# Rules requiring Distribution System Monitoring

- Lead and Copper Rule – primary source of lead/copper is plumbing
- Disinfection Byproduct (DBP) rules – DBPs continue to form in the distribution system; rule also sets limits on disinfectant levels in the distribution system
  - DBPs are formed by the reaction of a disinfectant with naturally occurring organic and inorganic compounds
- Surface Water Treatment Rule – systems monitor for disinfectant residual, systems required to maintain a detectable disinfectant residual throughout the distribution system
- Total Coliform Rule - applies to all public water systems, used to indicate treatment efficacy and distribution system integrity

# Stage 2 M-DBP Agreement in Principle

- Part B (sec 7) addressed distribution systems.
- The Advisory Committee recognized that:
  - “... finished water storage and distribution systems may have an impact on water quality and may pose risks to public health.”
  - “... cross connections and backflow in distribution systems represent a significant public health risk.”
  - “... water quality problems can be related to infrastructure problems and that aging of distribution systems may increase risk of infrastructure problems.”
  - “... distribution systems are highly complex and that there is a significant need for additional information and analysis on the nature and magnitude of risk associated with them.”

# Stage 2 M-DBP Agreement in Principle

- The Advisory Committee then recommended that:
  - “... beginning in January 2001, as part of the 6-year review of the Total Coliform Rule, EPA should evaluate available data and research on aspects of distribution systems that may create risks to public health and, working with stakeholders, initiate a process for addressing cross connection control and backflow prevention requirements and consider additional distribution system requirements related to significant health risks.”
- All members of the Advisory Committee but one signed part B.

# Six-year Review

- EPA committed to revise the Total Coliform Rule in July, 2003
- EPA identified stakeholder concerns about existing regulatory requirements concerning frequency and location of monitoring, follow-up monitoring after total coliform-positive samples, and the basis of the MCL
- Revision of the Total Coliform Rule may address broader issues associated with drinking water distribution systems

# Distribution Systems

Storage  
Tank

Distribution  
System

Treatment  
Plant

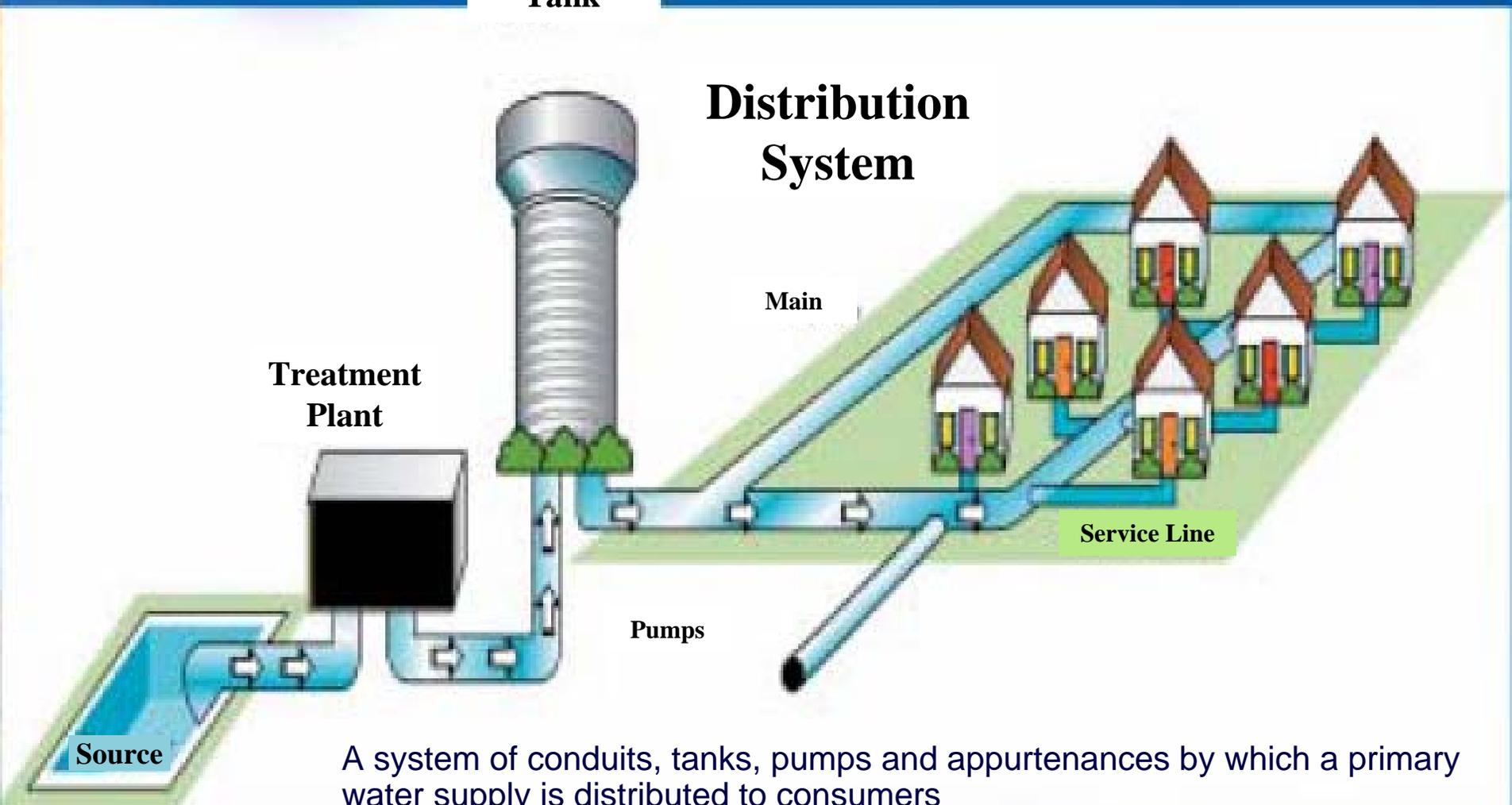
Source

Pumps

Main

Service Line

A system of conduits, tanks, pumps and appurtenances by which a primary water supply is distributed to consumers



# Past Activities

- EPA activities following Agreement in Principle
  - Developed a series of nine distribution system white papers
    - Held public stakeholder meetings
  - Convened an exposure assessment workshop
  - Developed a series of ten Total Coliform Rule issue papers
  - Additional information is available at [www.epa.gov/safewater/disinfection/tcr/index.html](http://www.epa.gov/safewater/disinfection/tcr/index.html)