

BACKFLOW INCIDENTS

EXAMPLES OF ACTUAL CROSS-CONNECTION CONTAMINATION EVENTS

1.

DATE OF BACKFLOW INCIDENT: June, 1979

LOCATION OF INCIDENT:
Meridian, Idaho

SOURCE(S) OF INFORMATION:
- American Water Works Association, Recommended Practice for Backflow Prevention and Cross-Connection Control, AWWA Manual M14, Section Edition, 1990
- Pacific Northwest Section of the American Water Works Association, Summary of Backflow Incidents, Fourth Edition, 1995

On June 18, 1979, residents in the City of Meridian, Idaho, complained that their water had an odor and taste of onions. At this time, the City was routinely flushing fire hydrants in the area of the complaints. The City could not see a consistent pattern to the odor or the complaints.

By isolating portions of the water system and conducting a premises-by-premises inspection, the City narrowed the source of the odor to one area containing a supermarket, a car wash, and a church printing firm. When the City flushed the nearest fire hydrant, the odor became very strong. Inspection revealed that an alarm check valve on a fire sprinkler system in the supermarket was leaking and allowing stagnant water to backflow from the sprinkler system into the public water system.

When the pressure in the public water system was reduced during fire hydrant flushing, the alarm check valve on the fire sprinkler system at the supermarket would leak, but the check valve would not open enough to set off the alarm. The City turned off water service to the supermarket fire sprinkler system, and the odor and taste problem did not occur during hydrant flushing.

2.

DATE OF BACKFLOW INCIDENT: July, 1993

LOCATION OF INCIDENT:
Coos Bay, Oregon

SOURCE(S) OF INFORMATION:
- Pacific Northwest Section of the American Water Works Association, Summary of Backflow Incidents, Fourth Edition, 1995

The occupants of a house in Coos Bay, Oregon, installed an auxiliary water system that consisted of irrigation piping supplied by water pumped from a drainage pond. The water in this pond was probably highly contaminated because it flowed from a fill area previously used for septage disposal. Eventually, the pump at the drainage pond failed. While the pump was at a repair shop, the wife noticed that the lawn needed watering, so she connected a hose from the house's potable water system to the irrigation piping. The husband returned with the repaired pump, installed it, and turned it on. The pump forced pond water through the hose connection, through the house's potable water system, and into the public water system.

Fortunately, a water meter reader was at the house at the time the water from the drainage pond was pumped into the public water system. The meter reader notified his office, and water system personnel isolated the contaminated portion of the public water system.

3.

DATE OF BACKFLOW INCIDENT: January, 1990

LOCATION OF INCIDENT:
Brighton, Colorado

SOURCE(S) OF INFORMATION:
- Pacific Northwest Section of the American Water Works Association, Summary of Backflow Incidents, Fourth Edition, 1995
- Watts Industries, Inc.; Watts Regulator News/Stop Backflow

On January 30, 1990, authorities closed Overland Middle School in Brighton, Colorado, after an antifreeze-like chemical was found in the school's potable water system. They sent nine students complaining of flu-like symptoms to an area hospital for treatment. The hospital released the students after treating them for ethylene glycol poisoning. Ethylene glycol had backflowed into the school's potable water system from the school's hot water heating system.

During a routine maintenance check of the Overland Middle School's hot-water heating boiler, maintenance workers left open a valve on the potable water line feeding the boiler. This allowed boiler water containing the antifreeze ethylene glycol to backflow into the school's potable water system. There was no backflow preventer on the feed line to the boiler.

There are many other backflow incidents on record. These are only three such incidents that help demonstrate what cross connections are and how they can lead to backflow contamination.