



Cross Connection

What is it?

Definition:

Any actual or potential physical connection between a potable water line and any pipe, vessel, or machine containing a non-potable fluid or has the possibility of containing a non-potable fluid, gas, or solid such that it is possible for the non-potable fluid to enter the water system by backflow

Backflow

What is it?

Definition:

The unwanted flow of **used or non-potable water or other substance**, from any source back into the distribution piping of a **potable water** supply system.

How does it occur?

Backsiphonage

water line breaks, undersized piping, sudden supply pressure loss (fire hydrant usage)



Backpressure

boilers, pumps, elevation



Regulations

- **IDAHO ADMINISTRATIVE CODE IDAPA 58.01.17**
Department of Environmental Quality Recycled Water Rules
- **Recommended Standards for Wastewater Facilities**
Great Lakes-Upper Mississippi River Board of State Sanitary Engineers
- **AWWA Manual M24**
Chapter 4 for dual water systems
- **Idaho Standards for Public Works Construction**
Current Edition

Elements of a program

- Adopt the Authority
Ordinance, Resolution, or Bylaw
- Surveys - Degree of Hazard
Evaluate every location
- Training to implement the program
Personnel to answer and ask questions



Elements of a program

- Requirements for testing/inspecting to standards



USC - FCCHR Procedures

- Procedure for responding to a backflow incident
Notification – Isolation - Sampling



Elements of a program

- Create public education program
*Public Meetings – News Paper
Mailer – Radio - Television*



- Develop and maintain a records program
History is Value



Potable / Reuse Water
Both Require
Backflow Prevention

Prevent
contamination
with
backflow prevention



Indicators (obvious)



DATE OF BACKFLOW INCIDENT: September 1996
LOCATION OF BACKFLOW INCIDENT: Hillsborough County, Florida
SOURCE(S) OF INFORMATION:

- Hillsborough County Water Department
Apparently, the County's **reclaimed water service connection** to this residential premises had recently been hooked up to an existing irrigation system at the premises. The irrigation system, which was previously supplied with water from the home's potable water system, **was not disconnected** from the home's potable water system.

Furthermore, a backflow preventer was **not installed** at the County's potable water service connection to the premises. The County Water Department estimated that about **50,000 gallons of reclaimed water backflowed** into the public potable water system.

The problem happened in March 2002, when the Brackenridge Golf Course switched its sprinkler system to "**recycled water**" - water that's cleaned up at the city's sewage plants, but still not safe to drink.

There was a valve - a drinking valve - **that was not properly cut and capped**. Consequently, when the recycled water was turned on, some of that recycled water did get into the drinking water system.

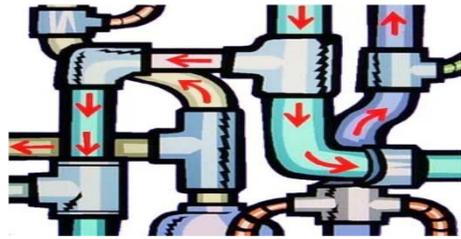
The problem affected the River Road neighborhood just behind the golf course. They were getting ill, a lot of **digestion and intestinal problems and diarrhea**.

June 2004

...Gold Coast Water and other state agencies are investigating a contamination incident in which recycled water was pumped into 630 homes two weeks ago.

The Bulletin last week revealed that a second major contamination happened at the same Pimpama plant late last year.

More than 375 council workers, contractors and visitors were exposed to water quality, ranging between Class B and D



The potential for hazardous cross-connections can be expected to increase where reuse and potable systems are close together



Ultimate GOAL

Allen Wilder
Backflow Assembly Testing & Supply LLC

(208) 456 - 2287
bftest@ida.net