

# Cross-Connection Data Collection for Support of State CCC Program

**TCR-DS Workshop**  
**January 2007**

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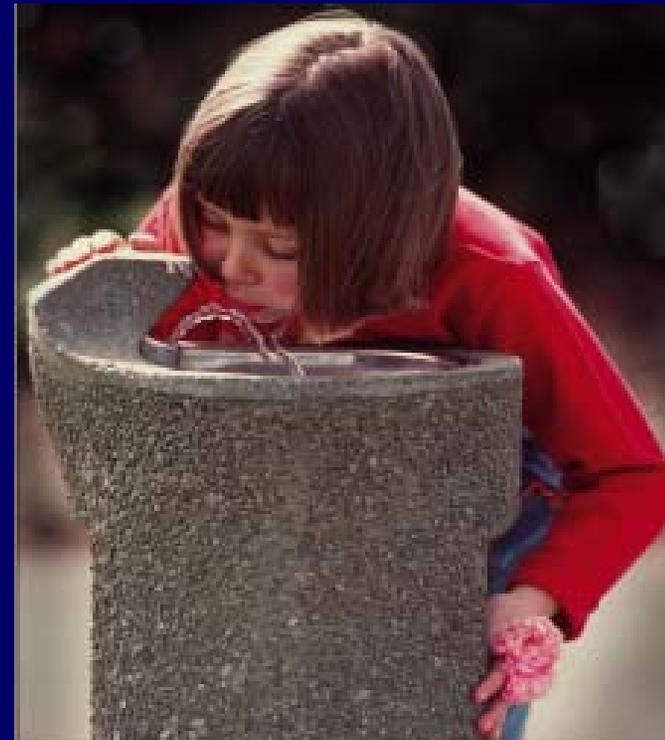
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**Water Quality Engineer**



HELPING TO ENSURE SAFE AND RELIABLE DRINKING WATER

# Office of Drinking Water Mission

**To protect the health  
of the people of  
Washington State  
by ensuring safe  
and reliable  
drinking water.**



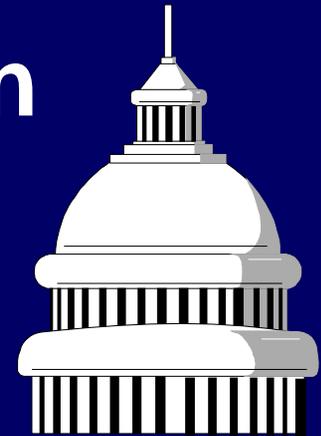
# Presentation Overview

- 💧 **Regulatory foundation and program history**
- 💧 **Data collection and compliance**
- 💧 **Compliance action results**

# CCC Program History

## 💧 Past (prior to 1999)

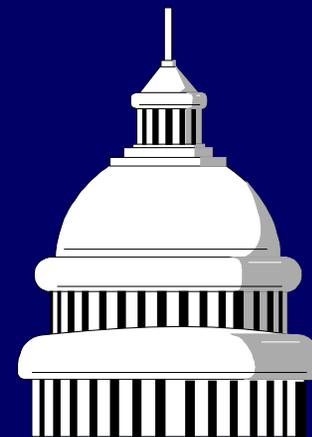
- Detailed CCC regulations adopted in 1970
- Emphasis on written CCC program plans
- Little/no CCC data collection



# CCC Program History

## 💧 Current emphasis

- CCC program implementation
- Protection of high-hazard premises
- Data collection and compliance



# Shift in Emphasis

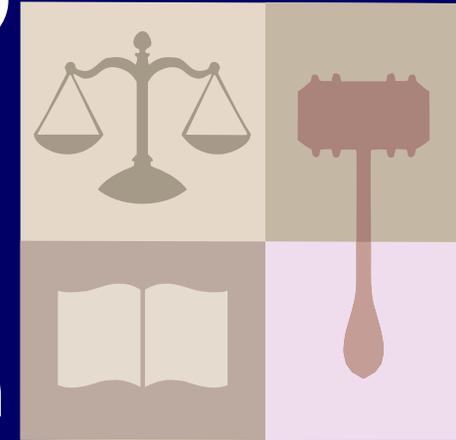
## Two Key Points

- 💧 CCC *implementation* = key to protecting public health
- 💧 Unprotected high-hazard premises pose some of the greatest risks to systems and their consumers



# CCC Regulatory Foundation

- 💧 **Clarified jurisdiction issues**
  - Public water system (PWS)
  - Local Administrative Authority (LAA)
  - Coordination required
- 💧 **Minimum program elements**
- 💧 **Mandatory premises isolation (containment)**
- 💧 **New reporting requirements**



# Minimum CCC Program Elements

**1. Legal authority**

**2. Hazard surveys**

**3. Install approved backflow assemblies**

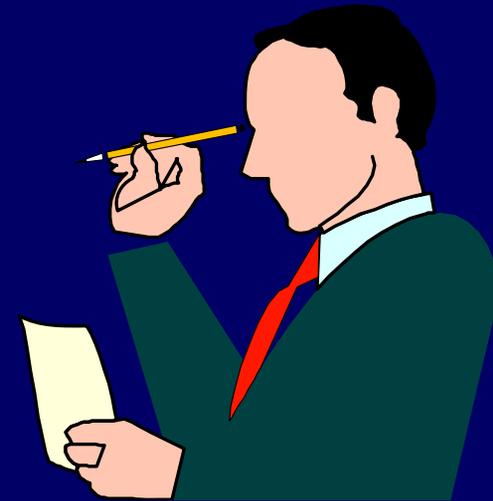


# Minimum CCC Program Elements

4. Qualified personnel

5. Inspection and testing

6. Testing QA/QC



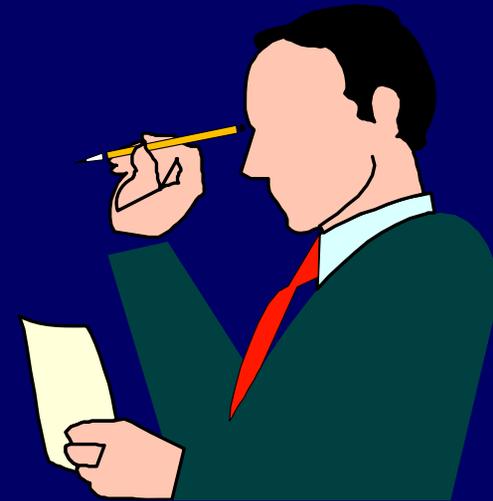
# Minimum CCC Program Elements

**7. Backflow incident procedures**

**8. Consumer education**

**9. Records**

**10. Reclaimed water requirements**



# Mandatory Isolation for High-Hazard Premises

- 💧 **Typical facilities including:**
  - **Sewage**
  - **Nuclear**
  - **Medical/dental/veterinary**
  - **Industrial/chemical**
  - **Interconnected auxiliary water supplies**
  - **Restricted survey access**
  
- 💧 **List is not all-inclusive**
  
- 💧 **Provisions for exceptions**

# CCC Data Collection & Reporting

- 💧 **Annual summary reports (ASR)**
  - **Systems must complete and submit upon request**
  - **Implementation activities, program plan and exceptions**
- 💧 **Backflow incidents**
  - **Systems must investigate**
  - **Submit backflow incident report form**

# Annual Summary Reports

- 💧 **Community systems with 1000 or more connections (220 systems)**
- 💧 **CCC activities data:**
  - **High-hazard premises protection**
  - **Assembly inventory and testing**
  - **Hazard surveys**

# Annual Summary Reports

- ◆ **CCC program policies:**
  - **Coordination with Local Administrative Authority**
  - **Fire systems, temporary services, auxiliary water, enforcement provisions, etc**

# Web-Based Data Submission Process

- 💧 **Systems must use web-based application to submit ASRs**
- 💧 **Access restricted to systems required to submit**
- 💧 **Validation and checks enhance data quality**



# Selected High-Hazard Premises for 2001

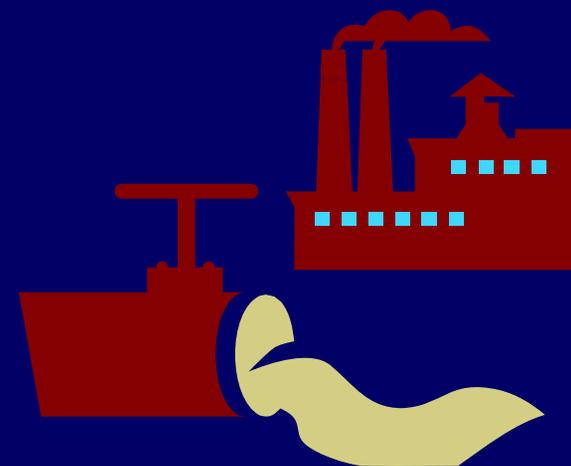
<b>High Hazard Category</b>	<b>Connections Served</b>	<b>Connections with Premises Isolation</b>	<b>Percent Protected</b>
<b>Reclaimed Water</b>	<b>16</b>	<b>13</b>	<b>81%</b>
<b>WW Pump Stations</b>	<b>924</b>	<b>570</b>	<b>61%</b>
<b>WW Treatment Plants</b>	<b>104</b>	<b>77</b>	<b>74%</b>
<b>Nuclear</b>	<b>8</b>	<b>6</b>	<b>75%</b>
<b>Totals</b>	<b>1052</b>	<b>666</b>	<b>63%</b>

# Compliance – Round 1

## *Selected* High-Hazard Premises

### 💧 Wastewater-related connections

- Treatment plants
- Pump stations (non-residential)
- Reclaimed water

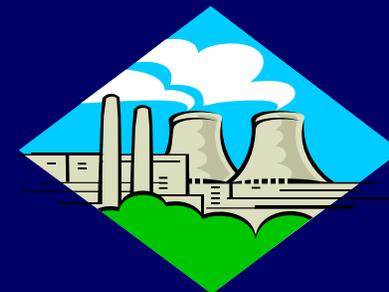


# Compliance – Round 1

## ***Selected*** High-Hazard Premises

💧 Radioactive processing plants and nuclear reactors

💧 Compliance letters sent

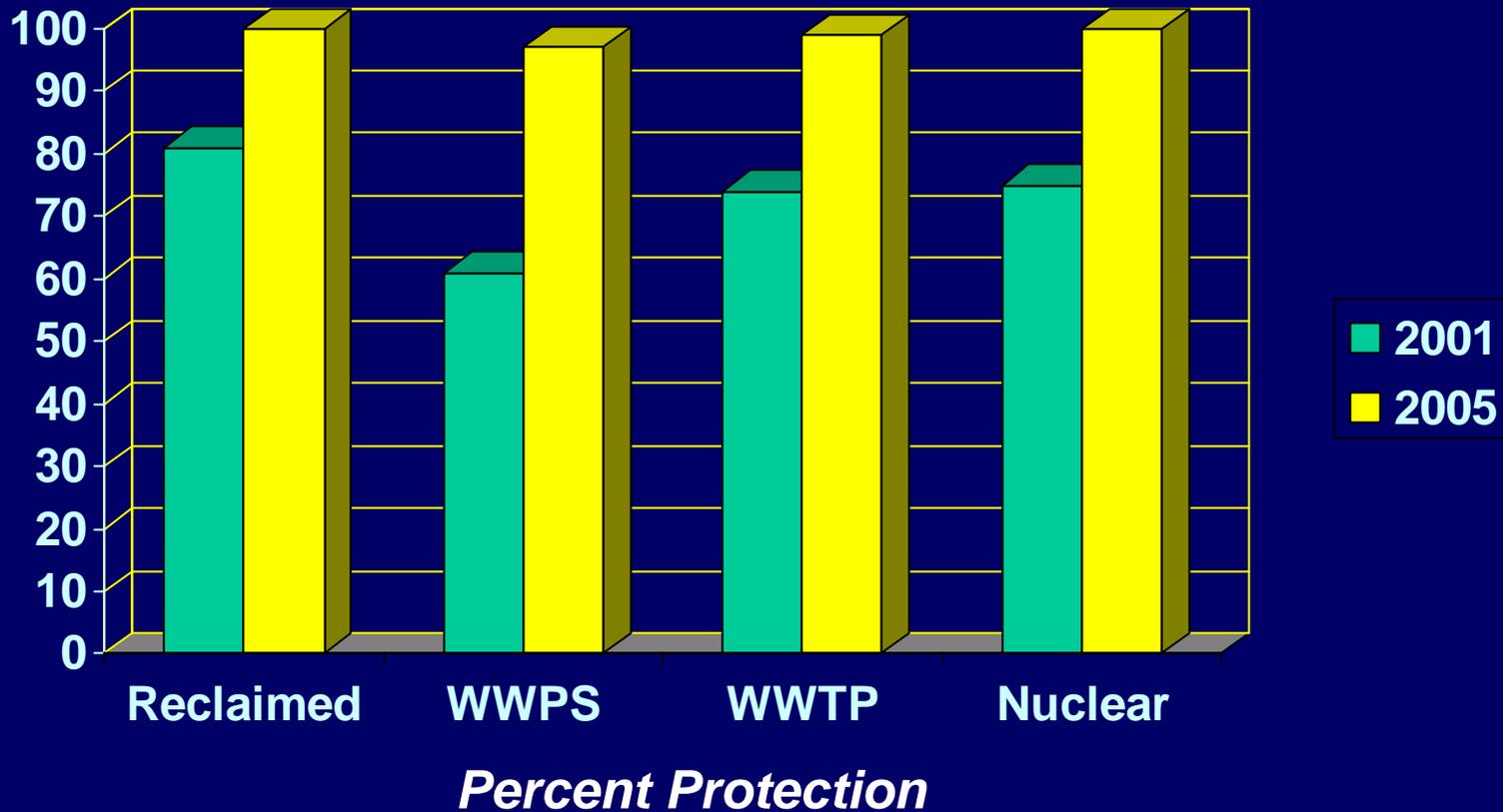


- June, 2005 based on 2004 ASRs
- September, 2006 based on 2005 ASRs

# Selected High-Hazard Premises Reported for 2005 (as of 10/11/06)

High Hazard Category	Connections Served	Connections with Premises Isolation	Percent Protected
Reclaimed Water	56	56	100%
<i>WW Pump Stations (non-residential)</i>	<i>1156</i>	<i>1122</i>	<i>97.06%</i>
<i>WW Treatment Plants</i>	<i>145</i>	<i>144</i>	<i>99.31%</i>
Nuclear	12	12	100%
<b>Totals</b>	<b>1369</b>	<b>1334</b>	<b>97.44%</b>

# Selected High-Hazard Premises Protection: 2001 vs. 2005



# Assess Indirect Public Health Indicators

- 💧 **Certified personnel**
- 💧 **Implementation activities**
- 💧 **High-hazard premises  
isolated with RBPA or AG**
- 💧 **Assembly information**

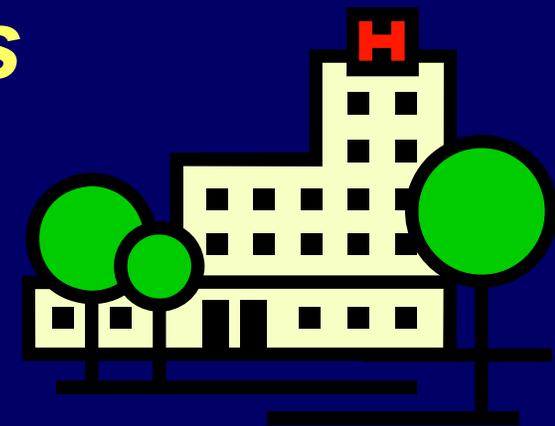


# Comparison of 2001 - 2005 Data

<b>Indicator</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>
<b>Certified CCS</b>	85%	91%	96%	93%	89%
<b>Implemented</b>	87%	86%	90%	95%	96%
<b>High-hazard protection</b>	56%	60%	68%	68%	72%
<b>DCVAs and RPBA</b>					
<i>Installed</i>	87,419	114,597	129,307	145,560	165,339
<i>Tested</i>	*	83%	85%	85%	83%
	<i>*Data illogical</i>				

# Round 2 Compliance Efforts

- 💧 Use 2006 ASR as basis
- 💧 Focus: *medical facilities*
- 💧 Findings at end of 2005
  - 30% of high-hazard premises statewide
  - ~75% protected
  - Over 3,550 premises



# Annual Summary Report

## Key Points

- ◆ **ASR reporting helps identify weaknesses in CCC programs**
- ◆ **Compliance efforts improving high-hazard premises protection statewide**



# Annual Summary Report

## Key Points

- Public health measures/indicators show statewide CCC progress
- Net result: greater public health protection for all consumers served by systems in Washington*



# Backflow Incident Report Form

- 💧 **New form in use since 2003**
- 💧 **Developed in conjunction with PNWS-AWWA CCC Committee**



# Backflow Incident Report Form

- 💧 **Tabular format conducive to data entry and analysis**
- 💧 **Form #331-243 posted on Office of Drinking Water website**



# Backflow Incident Reporting

💧 15 incidents reported using new form

Cross-Connection Control Program BACKFLOW INCIDENT REPORT FORM		
<i>Note: use this form to comply with WAC 246-290-490(8)(g).</i>		
<b>Part 1: Public Water System (PWS) Information</b>		
PWS ID: [ ]	PWS Name: [ ]	County: [ ]
<b>Part 2: Backflow Incident Information</b>		
<b>A. Incident Identification</b>		
Incident date: [ ]	Time of incident: [ ]	Incident ID (DOH use): [ ]
<b>B. Information on Premises where Backflow Originated</b>		
Name of premises: [ ]		
Premises physical address: [ ]		
City: [ ]	[ ] WA	Zip: [ ]
Premises type: non-residential <input type="checkbox"/> residential <input type="checkbox"/>		
Premises category/description (Table 9 category*, if applicable): [ ]		
Most recent hazard evaluation prior to incident (mm/dd/yyyy): [ ] None <input type="checkbox"/>		
PWS's assessed hazard level: [ ]	Premises isolation required by PWS? Yes <input type="checkbox"/> No <input type="checkbox"/>	
Type of backflow preventer required by PWS: [ ]	PWS relies on in-premises protection? Yes <input type="checkbox"/> No <input type="checkbox"/>	
Other hazard evaluation information: [ ]		
*See WAC 246-290-490(4)(b)(i).		

# Backflow Incident Reporting

## 💧 Extent of contamination:

- Entered distribution system - 10
- Contained on premises - 5
  - Illnesses reported (2 incidents) – 9

## 💧 Sources/types of contaminants:

- Compressed air - 6
- Auxiliary water - 3
- Other contaminants - 6

# Backflow Incident Report Key Points

- 💧 **System feedback positive**
- 💧 **More complete and consistent data**
- 💧 **Standardized format facilitates data analysis**
- 💧 **Justifies CCC programs for distribution system protection**



# Washington State Department of Health

## *Office of Drinking Water*

[www.doh.wa.gov/ehp/dw/](http://www.doh.wa.gov/ehp/dw/)

# Contact Information

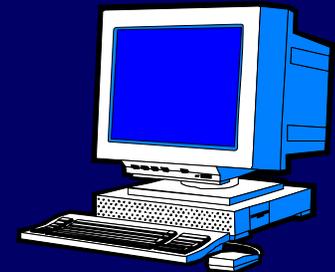
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# Contact Information

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*Questions?*

