Annual Operator School

August 5, 2016

Cathy Tucker-Vogel

Our Mission: To Protect and Improve the Health and Environment of all Kansans
Why Are We Here???

Our Mission: To Protect and Improve the Health and Environment of all Kansans
And The Answer Is.....

Disease Prevention and Public Health Protection

Environmental Protection
Historical Snippet - DW Chlorination & Typhoid Fever

- 1900 – 100 Cases/100,000 People
- 1908 – Jersey City, NJ – 1st PWS to Chlorinate
- 1920 – 33.8 Cases/100,000 People
- 2006 – 0.1 Cases/100,000 People (353 Total)
  - 75% International Travelers

Chlorination – One of 10 Greatest Public Health Achievements of 20th Century
Historical Snippet - WW

- Early Disposal Methods
- River Thames

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The First WW Operators

- Fleet River
- Tosher
- Sewer Flusher

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Salmonellosis
Salmonella enterica

<table>
<thead>
<tr>
<th>Year</th>
<th>Location</th>
<th>Suspected</th>
<th>Confirmed</th>
<th>Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>1965</td>
<td>Riverside, CA</td>
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<td>Gideon, MO</td>
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<td>2008</td>
<td>Alamosa, CO</td>
<td>1,300</td>
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Alamosa Case Study
Treatment Failure: No Chlorination
Distribution Failure: Sanitary Deficiencies in Tanks Allowed to Persist
State Oversight Failure: Sanitary Surveys did not Include Tanks

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Gastrointestinal Illness

_E. coli 0157:H7_

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<tr>
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<th>Location</th>
<th>Suspected</th>
<th>Confirmed</th>
<th>Deaths</th>
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<td>781</td>
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<td>2000</td>
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Walkerton Case Study

- **Operator Failure**
  - Low Chlorine
  - No Daily Chlorine Residual Monitoring
  - Operators “Grandfathered In”
  - Did Not Maintain CEUs
  - Falsified Records
    - Chlorine Residual
    - Sample Locations
Walkerton Case Study

- **Regulator Failure**
  - Failed Identification of Groundwater Under Direct Influence of Surface Water
  - Failed to Identify and Require Correction of Monitoring Practices
  - Failed to Enforce Operator Training Requirements

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Walkerton Case Study

Governing Body Failure

- Only Concerned With Meeting Attendance & Financial Matters
- Did Not Exercise Appropriate Oversight of General Manager
- Did Not Require General Manager to Address Deficiencies Identified By Ministry of Environment

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Cryptosporidiosis

Cryptosporidium (protozoan)

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<th>Suspected</th>
<th>Confirmed</th>
<th>Deaths</th>
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<td>2001</td>
<td>North Battleford, Saskatchewan</td>
<td>7,000</td>
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Kansas History

- 1909 – KS Legislature Banned Common Drinking Water Cup
- 1912 – First National DW Regulation Banning Common Cup on Inter-State Carriers

Dr. Samuel Crumbine

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Looking Forward...

KDHE Priorities for DW & WW Operators

- Implementation of RTCR
- Implementation of Stage 2 Rule
- Implementation of Lead & Copper Rule
- Implementation of E-Reporting Rule
- Update Inspection Processes
- New Ammonia Criteria

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