Safe Drinking Water Act (SDWA) Regulations – An Overview
An Overview of the Safe Drinking Water Act

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Topics:

Federal SDWA – 40 CFR 141
NM Drinking Water Regs
NM DWB Website Tour
Federal US EPA Safe Drinking Water Act

- Public Water Systems
- Primary Contaminants
- Maximum Contaminant Levels (MCL)
- Inorganic Contaminants
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  - Nitrate and Nitrite
  - Fluoride
  - Turbidity
- pH
- Dissolved Oxygen
- Temperature
- Organic Contaminants
- Radioactive Contaminants
Federal US EPA Safe Drinking Water Act

- Bacteriological Contaminants
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- Secondary Contaminants
- Monitoring and Reporting
- Sampling Schedules
- Public Notification
- Action Plans for Violations
- Variances and Exemptions
- Surface Water Rule
- Disinfectants and Disinfection By-Products Rule Ground Water Rule
- Consumer Confidence Reports
Safe Drinking Water Act (SDWA)

• SDWA passed by Congress in 1974
  Primary goal of the SDWA is to set health based standards for drinking water to protect against both man-made and naturally-occurring contaminants

• 1986, 1996 & 2016 Amendments
  Requires additional protection of water sources—rivers, lakes, reservoirs, springs and groundwater wells
Public Water Systems

“Public water system means a system for the provision to the public of water for human consumption through pipes or after August 5, 1998, other constructed conveyances, if such system has at least fifteen service connections or regularly serves an average of at least twenty-five individuals daily at least 60 days out of the year.”

40 CFR 141.2 (4-16-07 edition)
A public water system is either a...

- **Community** — “a public water system which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents.”

- **Non-Transient Non-Community** — “a public water system that is not a community water system and that regularly serves at least 25 of the same persons over 6 months per year.” (Examples: schools, senior centers, detention centers etc.)

- **Transient Non-Community** — “a non-community water system that does not regularly serve at least 25 of the same persons over six months per year.” (Examples: rest stops, convenience centers, restaurants etc.)
Primary Contaminants

Certain substances and organisms in drinking water have been determined to cause adverse acute or chronic health effects. They are referred to as **primary contaminants** and are regulated by MCLs. These substances can be grouped into four major categories:

1. Inorganic Contaminants
2. Organic Contaminants
3. Radiological Contaminants
4. Microbiological Contaminants
1. Inorganic Contaminants

- These contaminants are mostly heavy metals (by RCRA definition), but also include other non carbon-based chemicals
  - 15 contaminants
    - Nitrate, Nitrite, Total Nitrate/Nitrite and Asbestos are exceptions to the Standard Monitoring Framework
  - They may enter the water supply naturally through groundwater formations or from mining runoff and industrial discharges
<table>
<thead>
<tr>
<th>Inorganic Contaminant</th>
<th>MCL (mg/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimony</td>
<td>0.006</td>
</tr>
<tr>
<td>Arsenic</td>
<td>0.01</td>
</tr>
<tr>
<td>Barium</td>
<td>2</td>
</tr>
<tr>
<td>Beryllium</td>
<td>0.004</td>
</tr>
<tr>
<td>Cadmium</td>
<td>0.005</td>
</tr>
<tr>
<td>Chromium</td>
<td>0.1</td>
</tr>
<tr>
<td>Cyanide (as free Cyanide)</td>
<td>0.2</td>
</tr>
<tr>
<td>Mercury</td>
<td>0.002</td>
</tr>
<tr>
<td>Selenium</td>
<td>0.05</td>
</tr>
<tr>
<td>Thallium</td>
<td>0.002</td>
</tr>
<tr>
<td><strong>Copper</strong></td>
<td><strong>1.3</strong> <em>Action level</em></td>
</tr>
<tr>
<td><strong>Lead</strong></td>
<td><strong>0.015</strong> <em>Action level</em></td>
</tr>
<tr>
<td><strong>Nitrate (as N) – Acute (chemical)</strong></td>
<td><strong>10</strong></td>
</tr>
<tr>
<td>Nitrite (as N)</td>
<td>1</td>
</tr>
<tr>
<td>Total Nitrate/Nitrite (as N)</td>
<td>10</td>
</tr>
<tr>
<td>Fluoride</td>
<td><strong>2.0 Secondary MCLG</strong></td>
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<tr>
<td></td>
<td><strong>4.0 Violation</strong></td>
</tr>
<tr>
<td><strong>Turbidity – Acute (physical)</strong></td>
<td><strong>0.3 NTU in 95% of samples</strong></td>
</tr>
<tr>
<td>Asbestos</td>
<td>1 NTU maximum</td>
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<td></td>
<td>7,000,000 Fibers/L</td>
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</tbody>
</table>
Lead and Copper

• **Lead - Pb**
  Mimics other metals, is efficiently absorbed into the body. Targets the central nervous system, interferes with synapse formation and neurochemical development, children at high risk.

• **Copper - Cu**
  Inorganic copper, found in plumbing pipes, brass fittings and redox water filters, is a neurotoxic heavy metal linked to physical and psychiatric symptoms on par with mercury and lead.

Both leached by acidic (& soft) water from system & customer piping.
Lead and Copper - SDWA

• Sampling must be conducted for lead and copper that may be present at the customer's tap. Most of the lead and copper found this way comes from the customer's plumbing.

• The system will be responsible for treating the water to stabilize the corrosive qualities that cause the leaching of lead and copper from the customer's plumbing if the Action Levels are exceeded.
Nitrate and Nitrite

Nitrate and nitrite are chemical contaminants that represent an immediate health risk.

Compounds form naturally when N combines with oxygen or ozone to form NO2 and NO3.

Pregnant women and infants can develop a condition known as “Blue Baby Syndrome” or methemoglobinemia - when nitrates oxidize Fe atoms in hemoglobin, rendering it unable to carry oxygen.
Fluoride

• Thought to help prevent tooth decay

• The optimum dosage for fluoride is 0.8-1.2 g/L. At higher concentrations fluoride can:
  • create stains on teeth in children and
  • leads to brittle bones in older individuals

• The optimum dosage for fluoride is determined by the average ambient air temperature of the system
Turbidity

- Turbidity is clay, silt or mud in the water.
- Although turbidity does not represent a health risk by itself, it can shield harmful bacteria from disinfection processes.
- Turbidity is measured in Nephelometric Turbidity Units (NTU).
- The device used to measure NTUs is called a nephelometer or turbidimeter.
2. Organic Contaminants

• There are 51 of these contaminants:
  • herbicides and insecticides that are primarily used in agriculture applications,
  • organic solvents used in industrial applications,
  • organic by-products of industrial processes, and
  • chemical by-products from chlorination of drinking water
2. **Organic Contaminants** continued

- Sources of contamination include:
  - Runoff from agricultural spraying
  - Industrial discharges
  - Accidental spills
- Improper disposal of hazardous wastes
## ORGANIC COMPOUNDS

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>MCL (mg/L)</th>
<th>Contaminant</th>
<th>MCL (mg/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acrylamide</td>
<td>TT</td>
<td>Endothall</td>
<td>0.1</td>
</tr>
<tr>
<td>Alachlor</td>
<td>0.002</td>
<td>Endrin</td>
<td>0.002</td>
</tr>
<tr>
<td>Atrazine</td>
<td>0.003</td>
<td>Epichlorohydrin</td>
<td>TT</td>
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<tr>
<td>Benzenes</td>
<td>0.005</td>
<td>Ethylbenzene</td>
<td>0.7</td>
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<tr>
<td>Benzo(a)pyrene</td>
<td>0.0002</td>
<td>Ethylene dibromide</td>
<td>0.00005</td>
</tr>
<tr>
<td>Carbofuran</td>
<td>0.04</td>
<td>Lindane</td>
<td>0.0002</td>
</tr>
<tr>
<td>Carbon Tetrachloride</td>
<td>0.005</td>
<td>Methoxychlor</td>
<td>0.04</td>
</tr>
<tr>
<td>Chlordane</td>
<td>0.002</td>
<td>Oxamyl (Vydate)</td>
<td>0.2</td>
</tr>
<tr>
<td>Chlorobenzene</td>
<td>0.1</td>
<td>Polychlorinated</td>
<td></td>
</tr>
<tr>
<td>2,4-D</td>
<td>0.07</td>
<td>byphenyls (PCBs)</td>
<td>0.0005</td>
</tr>
<tr>
<td>Dalapon</td>
<td>0.2</td>
<td>Pentachlorophenol</td>
<td>0.001</td>
</tr>
<tr>
<td>DBCP</td>
<td>0.0002</td>
<td>Picloram</td>
<td>0.5</td>
</tr>
<tr>
<td>o-Dichlorobenzene</td>
<td>0.6</td>
<td>Simazine</td>
<td>0.004</td>
</tr>
<tr>
<td>p-Dichlorobenzene</td>
<td>0.075</td>
<td>Styrene</td>
<td>0.1</td>
</tr>
<tr>
<td>1,2-Dichloroethane</td>
<td>0.005</td>
<td>Tetrachloroethylene</td>
<td>0.005</td>
</tr>
<tr>
<td>1,1-Dichloroethylene</td>
<td>0.007</td>
<td>Toluene</td>
<td>1</td>
</tr>
<tr>
<td>cis-1,2-Dichloroethylene</td>
<td>0.07</td>
<td>Toxaphene</td>
<td>0.003</td>
</tr>
<tr>
<td>trans-1,2-Dichloroethylene</td>
<td>0.1</td>
<td>Trichloroethylene</td>
<td>0.005</td>
</tr>
<tr>
<td>Dichlormethane</td>
<td>0.005</td>
<td>2,4,5-TP (Silvex)</td>
<td>0.05</td>
</tr>
<tr>
<td>1,2-Dichloropropane</td>
<td>0.005</td>
<td>1,2,4-Trichlorobenzene</td>
<td>0.07</td>
</tr>
<tr>
<td>Di(2-ethylhexyl) adipate</td>
<td>0.4</td>
<td>1,1,1-Trichloroethane</td>
<td>0.2</td>
</tr>
<tr>
<td>Di(2-ethylhexyl) phthalate</td>
<td>0.006</td>
<td>1,1,2-Trichloroethane</td>
<td>0.005</td>
</tr>
<tr>
<td>Dinoseb</td>
<td>0.007</td>
<td>Vinyl chloride</td>
<td>0.002</td>
</tr>
<tr>
<td>Dioxin</td>
<td>0.00000003</td>
<td>Xylenes (total)</td>
<td>10</td>
</tr>
<tr>
<td>Diquat</td>
<td>0.02</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 – TT refers to approved Treatment Technology rater than MCL
3. Radiological Contaminants

• Most radioactive substances occur naturally in ground water and in some surface supplies

• Some man-made substances may also enter drinking water supplies from processing facilities, mining areas, and nuclear power plants
Radioactive Contaminants

The 4 contaminants include:

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>MCL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radium 226 and 228</td>
<td>5 pCi/L</td>
</tr>
<tr>
<td>Gross Alpha Activity</td>
<td>15 pCi/L</td>
</tr>
<tr>
<td>Gross Beta Activity (man-made)</td>
<td>4 millirem/yr or 50 pCi/L</td>
</tr>
<tr>
<td>Uranium</td>
<td>30 ug/L (ppb)</td>
</tr>
</tbody>
</table>
4. Bacteriological Contaminants

• The total coliform group of bacteria represents the indicator organisms used in determining bacteriological contamination

• coliforms in water include escherichia (E. coli – **Acute biological**), citrobacter, enterobacter & klebsiella

• Their presence indicates the possibility that some pathogenic (disease causing) organisms may also be present
Drinking Water Regulations

- Sets the number of samples a water system must submit per month (1-minimum)
- Larger systems require more samples each month (480-maximum)
  - Number of samples may be reduced by NMED-DWB
  - Compliance is based on routine and repeat samples
## RTCR Monitoring Frequency

<table>
<thead>
<tr>
<th>Population Served*</th>
<th>Minimum Number of Samples per Month</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 - 1,000</td>
<td>1</td>
</tr>
<tr>
<td>1,001 – 2,500</td>
<td>2</td>
</tr>
<tr>
<td>2,501 – 3,300</td>
<td>3</td>
</tr>
<tr>
<td>3,301 – 4,100</td>
<td>4</td>
</tr>
<tr>
<td>4,101 – 4,900</td>
<td>5</td>
</tr>
<tr>
<td>4,901 – 5,800</td>
<td>6</td>
</tr>
<tr>
<td>5,801 – 6,700</td>
<td>7</td>
</tr>
<tr>
<td>6,701 – 7,600</td>
<td>8</td>
</tr>
<tr>
<td>7,601 – 8,500</td>
<td>9</td>
</tr>
<tr>
<td>8,501 – 12,900</td>
<td>10</td>
</tr>
</tbody>
</table>

* See rule (40 CFR 141.21.a.2) for additional population categories
National Secondary Drinking Water Regulations 40 CFR 143

• Secondary Maximum Contaminant Level Goals (SMCLGs) - examples:

<table>
<thead>
<tr>
<th>Secondary Contaminants</th>
<th>SMCLG (mg/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TDS 500</td>
<td>250</td>
</tr>
<tr>
<td>Chloride</td>
<td>250</td>
</tr>
<tr>
<td>Sulfate</td>
<td>250</td>
</tr>
<tr>
<td>Iron 0.3</td>
<td>0.05</td>
</tr>
<tr>
<td>Manganese</td>
<td>6.5-8.5</td>
</tr>
</tbody>
</table>

• Monitoring
  ✓ Not Enforceable
  ✓ Goals or Guidelines for the States
Monitoring and Reporting

*Water systems* are responsible for:

- Monitoring water quality and
- Reporting violations to the public
  
  - NMED-DWB is currently collecting and submitting chemical and radiochemical samples to the laboratories
  
  - Systems are still responsible for the results of testing and any public notification that may be required
  
  - Systems are required to report to NMED-DWB within 48 hours if they fail to comply with any NM Drinking Water Regulation
Systems must retain records for:

- **Bacteriological samples**: 5 years
- **Chemical samples**: 10 years
- **Records of actions taken to correct violations**: 3 years after last action
- **Reports, correspondence, communications and sanitary surveys**: 10 years
- **Variance granted to the system**: 5 years following the expiration of the variance
- **Lead and copper samples**: 12 years
- **Consumer Confidence Reports**: 3 years
Sampling Schedules

Chemical & Radiological Baseline Monitoring of Drinking Water Based on 3-6-9 Year Compliance Periods

Chemical Monitoring
For inorganic chemicals monitoring frequency is based on the water source and contaminant being sampled.

Radiological Monitoring
Initial sampling of 4 quarters composited.

ALL PWS MUST BE SAMPLED WITHIN 90 DAYS OF COMING ON LINE
Sample Collection Frequency

Ground Water

• Nitrate—Annual (If 1 sample $\geq$ 5 mg/L, 1/4ly at least 1/year) All systems; No waiver
• Nitrite—1 time only (if result is < 0.5 mg/L) All systems
• Asbestos—Every 9 years (1st period of cycle if no waiver) CWS & NTNCWS
• Others—Triennial - CWS & NTNCWS

Surface Water

• Nitrate—Quarterly (reduced to annual if none $>5$ mg/L) All systems
• Nitrite—1 time only (if result is < 0.5 mg/L) All systems
• Asbestos—Every 9 years (same as groundwater system) CWS & NTNCWS
• Others—Annual - CWS & NTNCWS

A CONFIRMATION SAMPLE IS REQUIRED WHEN THE MCL IS EXCEEDED
Public Notification

Divided into 3 tiers

• Takes into account the seriousness of the violation or situation and any potential adverse health effects

• Systems must notify the public and NMED-DWB

• Certification to NMED-DWB within 10 days after public notification
Standards & Frequency

Tier 1 — Significant potential health risks with short term exposure — 24 hours

- Radio
- TV
- Hand Delivery
- Posting
- Other methods specified by State
Standards & Frequency continued

Tier 2 — Potential health risks — 30 days
- Mail or direct delivery for CWSs
- Mail, direct delivery or posting for NCWs

Tier 3 — No potential health risks — 1 year
- Same as Tier 2
- CCR
Action Plans for Violations

• If a water supply exceeds the primary standards the water system must either:
  • cease using water from the contaminated source,
  • provide adequate treatment to remove the contaminants,
  • or locate a new source of supply that meets the standards

• Blending may be done under certain conditions
  • The blended water must enter the system from a single point of entry
Variances, Exemptions and Waivers

• A system may be granted a variance or exemption if the MCL is exceeded and is unable to correct the problem due to financial or technical reasons

• All requests for variances, waivers, and exemptions must be directed to and approved by the NMED-DWB

• Not allowed for acute hazards

• Waivers can be applied to sample frequencies
Surface Water Rules

• Any system that uses surface water must provide treatment of the supply

• Springs and infiltration galleries are considered surface supplies if they are found to have groundwater that is under the direct influence of surface water (GWUDI)

• A speciation study of the organisms found in the suspected source of influence and the water that enters the system is used to determine whether a source is GWUDI
Surface Water Rules

- Interim Enhanced Surface Water Treatment Rule (IESWTR) – now expired
  - 10,000 or more population
- Long Term 1 Enhanced Surface Water Treatment Rule (LT1ESWTR) – now expired
  - <10,000 population
- Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR) – now in effect
  - Schedule 1—100,000 or more population
  - Schedule 2—50,000 to 99,999 population
Removal or Inactivation of *Giardia*

The concerns about contamination have created the need for higher free chlorine residuals and longer disinfection contact times

- The “CT” calculation is used to determine the necessary contact time at a given chlorine residual (or other disinfectant) concentration

- $C \times T = \text{the CT factor}$

  - $C$ is the disinfectant concentration,
  - $T$ is the contact time in minutes,
  - $CT$ is temperature & pH-based for chlorine
Removal of *Cryptosporidium*

- 2-log reduction of the numbers found in raw water for IESWTR and LT1 systems
  - 2-log removal or deactivation would mean that 1% of the bacteria may survive or 99% are removed
  - 4-log removal or deactivation would mean that 0.01% of the organisms may survive or 99.99% are removed
- Some larger LT2 systems may be required to provide a 5.5-log removal
- Log removal credits are assigned to the various treatment processes
Disinfectants and Disinfection Byproducts Rule

- Applies to all CWSs and NTNCWSs that add disinfectant and TNCWSs that use chlorine dioxide
  - Subpart H systems serving \( \geq 10,000 \) people (January 1, 2002)
  - Subpart H systems serving \(< 10,000\) people and ground water systems that chemically disinfect (January 1, 2004)
DBP Rule

• Trihalomethanes and haloacetic acids are formed when chlorine, bromine, or iodine combine with organic precursors that may be present in the source water
  • Recent changes have set new MCLs for several disinfection by-products
• Systems that use ozone as a disinfectant may also create bromates
  • All of these chemicals are carcinogens
<table>
<thead>
<tr>
<th>Contaminant</th>
<th>MCL (mg/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Trihalomethanes (TTHM)</td>
<td>0.080</td>
</tr>
<tr>
<td>Halo Acetic Acids (HAA5)</td>
<td>0.060</td>
</tr>
<tr>
<td>Bromate</td>
<td>0.010</td>
</tr>
<tr>
<td>Chlorite</td>
<td>1</td>
</tr>
<tr>
<td>Chlorine Dioxide</td>
<td>0.8</td>
</tr>
<tr>
<td>Chlorine (MRDL)</td>
<td>4</td>
</tr>
<tr>
<td>Chloramines</td>
<td>4</td>
</tr>
</tbody>
</table>
Stage 1 and Stage 2 D-DBP

• Stage 1 D-DBP set MCLs based on a running annual average (RAA) of samples taken in the system, rather than individual sample results.

• Stage 2 D-DBP has changed to use the location-based running annual average (LRAA) of each individual contaminant for the calculation.
Stage 1 and Stage 2 D-DBP

• A system that is in violation may be required to change to a different means of disinfection or incorporate an additional process

• Sample results from D-DBP testing must be reported within 10 days of the end of the monitoring period

• Chlorine residual reports must be submitted every quarter
### MONTHLY DISINFECTANT RESIDUAL REPORT

**SYSTEM NAME:**

**WATER SYSTEM ID #**

**Number of Active Service Connections this Month:**

<table>
<thead>
<tr>
<th>Date</th>
<th>Month #1</th>
<th>Month #2</th>
<th>Month #3</th>
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<table>
<thead>
<tr>
<th>Avg</th>
<th>Max</th>
<th>Min</th>
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</table>

I certify that I am familiar with the information contained in this report and that, to the best of my knowledge, the information is true, complete, and accurate.

**Operator's Signature:**
## DISINFECTANT LEVEL QUARTERLY OPERATING REPORT (DLQOR)

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Year</th>
<th>System ID #</th>
</tr>
</thead>
</table>

### First Month of Quarter
- **Monthly Summary**
  - Average of all disinfectant Residuals for this month
  - Number of residuals collected this month
  - Number of readings with NO Residual for this Month
  - mg/L
  - Readings
  - %

### Second Month of Quarter
- **Monthly Summary**
  - Average of all disinfectant Residuals for this month
  - Number of residuals collected this month
  - Number of readings with NO Residual for this Month
  - mg/L
  - Readings
  - %

### Third Month of Quarter
- **Monthly Summary**
  - Average of all disinfectant Residuals for this month
  - Number of residuals collected this month
  - Number of readings with NO Residual for this Month
  - mg/L
  - Readings
  - %

### Quarterly Summary
- **Lowest Residual for this Quarter**
  - mg/L
- **Highest Residual for this Quarter**
  - mg/L

### Running Annual Average Summary
- **Average of all disinfectant Residuals for the previous 12 Months**
  - mg/L

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**NAME:**

**TITLE:**

**LICENSE #:**

**ADDRESS:**

**CITY:**

**STATE:**

**ZIP CODE:**

**PHONE #:**

**SIGNATURE:**

**DATE:**

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**DLQORs are required to be submitted to NMED-DWB No Later than the Dates Noted Below**

<table>
<thead>
<tr>
<th>Quarter 1</th>
<th>Quarter 2</th>
<th>Quarter 3</th>
<th>Quarter 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Report due by April 10th</td>
<td>Report due by July 10th</td>
<td>Report due by October 10th</td>
<td>Report Due by January 10th</td>
</tr>
</tbody>
</table>

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**Disinfectant Residuals for January, February, & March**

**Disinfectant Residuals for April, May, & June**

**Disinfectant Residuals for July, August, & September**

**Disinfectant Residuals for October, November, & December**
Ground Water Rule

• The Ground Water Rule (GWR) was proposed to establish a strategy for identifying ground water systems that are at high risk for fecal contamination

• Community water systems with outstanding performance and non-community water systems had until December 31, 2014 to complete the initial sanitary survey

• All other community water systems had to complete their initial survey by December 31, 2012
The GWR is comprised of four major components:

1. Periodic sanitary surveys (CWS every 3 yrs, NTNC every 5 yrs) to identify and evaluate significant deficiencies such as defective casings or location too close to sources of surface pollution

2. Monitoring of source water for the presence of E. coli and other enteric organisms

3. Corrective action must be taken by any system with significant deficiencies or source water contamination. This could include:
   A. Correcting structural deficiencies
   B. Eliminating the source of contamination
   C. Finding an alternative source of water
   D. Providing treatment to achieve a 4-log inactivation or removal of viruses

4. Compliance monitoring to ensure that the treatment reliably achieves a 4-log reduction or inactivation of viruses
Consumer Confidence Reports

• Applies only to community water systems
• Summarizes information regarding sources used (i.e., rivers, lakes, reservoirs, or aquifers)
• Includes any Detected contaminants
• Includes Compliance information
• Includes Educational information
The CCR is due by:

- July 1st of each year to customers and NMED-DWB; April 1st from wholesaler to consecutive
- October 1st NMED-DWB must receive certification that the CCR has been distributed
- DWW data generator and EPA CCRiWriter (now available through EPA website)
NM Drinking Water Regulations
NM Drinking Water Bureau Website
Federal SDWA

40 CFR Part 141 Subparts A - Y

State of New Mexico Drinking Water Regulations

DWB homepage -
https://www.env.nm.gov/drinking_water/

NM Drinking Water Regs webpage -
https://www.env.nm.gov/drinking_water/regs/
Newest Regulation - RTCR

- RTCR = Revised Total Coliform Rule
- [https://www.env.nm.gov/drinking_water/rtcr/](https://www.env.nm.gov/drinking_water/rtcr/)
- Many changes from previous Total Coliform Rule
- NMED offers 8-hr RTCR training
RTCR Sampling Requirements

**ALL** Public Water Systems:

- Monitor for Total Coliform and *E. coli* (no change for New Mexico)
- **No reduced monitoring will be allowed in New Mexico. Water systems that are currently sampling quarterly will now be required to sample monthly.**
- All PWSs must monitor according to a written sample siting plan; plan must identify routine **AND** repeat sampling locations.
- *E. coli* MCL violation replaces TCR’s acute MCL with an *E. coli* MCL
- Total coliform Treatment Technique violation replaces TCR’s total coliform MCL violations – no Public Notice (Tier 2) req’d
- Public Notice requirements remain for *E. coli* MCL violations
RTCR Sampling Requirements

• Seasonal Public Water Systems
  Must complete a State Approved Startup
  Procedure prior to opening for the season

• Must sample on a Monthly basis rather than on a quarterly basis
RTCR Reduced Monitoring

Why is Reduced Monitoring (Quarterly) not being allowed in New Mexico?

The requirements for reduced monitoring within the RTCR made it very difficult to obtain, track, and maintain those reduced schedules.

Some of those were:

- Minimum of 12 months clean compliance history
- Sanitary Survey with no deficiencies
- Annual Site visits from NMED (Or annual Level 2 Assessment)
- Cross-Connection control program approved by the State
- Continuous disinfection
- 4-Log Removal or inactivation of viruses
RTCR Sampling Plans

All PWSs in New Mexico will be required to update their Sampling Plans

- The PWS must design its sample siting plan to identify routine **AND** repeat sampling with physical address or location info that best verify and determine the extent of potential contamination of the distribution system. The state has the discretion to modify the sample siting plan as necessary.

- Monthly sample site verifications between Chain-of-Custody location information will be compared to site plan location designations.
RTCR Sampling Plans

All PWSs in New Mexico will be required to update their Sampling Plans using DSSP Instructions and Template (available on DWB website)

At a minimum sampling plans must contain the following:

• Name of PWS
• Name and Contact Information for all important contacts at PWS (Administrative Contact, Operator, Sampler, Emergency Contact)
• Routine Sampling Locations that are representative of the entire distribution system
• Pre-Identified repeat monitoring locations
• Map of the entire distribution system
RTCR Sampling

What happens when a routine sample is either Total Coliform or *E.Coli* Positive?

- All systems are required to collect repeat sampling
- Repeat sampling will be limited to **three** repeat samples for every result. (Plus triggered source sampling to comply with the Ground Water Rule)
- Repeat Samples do not have to be collected within 5 connections upstream or downstream.
- RTCR allows for alternative repeat sampling locations if a PWS believes that those alternative locations are representative of pathways for contamination of the distribution system
- Alt-sampling SOP must be approved by DWB prior to repeat sampling event by system
RTCR Sampling

What happens when a routine sample is either Total Coliform or *E.Coli* Positive?

- If one or more repeat samples are TC+, the PWS must collect an additional set of repeat samples within 24 hours of being notified of the repeat sample’s TC+ result.
- The PWS must continue to take additional sets of repeat samples until either total coliforms are not detected in one complete set of repeat samples, or the PWS determines that a coliform TT trigger has been exceeded as a result of a TC+ repeat sample and the PWS has notified the state.
- **No additional sampling required the month after a TC+ or EC+ Result.**
RTCR Sampling

What Violations are triggered by RTCR sampling events?

• A PWS is in violation of the *E.Coli* MCL if:
  • A PWS has an EC+ repeat sample following a TC+ routine sample
  • A PWS has a TC+ repeat sample following an EC+ routine sample
  • A PWS fails to take all required repeat samples following an EC+ routine sample

*E.Coli* MCLs require the PWS to issue a Tier 1 public notice which includes a Boil Water Advisory
RTCR vs TCR Changes

• RTCR changes went into effect April 1, 2016

• All TCR-related questions have been removed from all sampler & operator exams

• New RTCR-related questions have been included in all sampler & operator exams starting with the April 2016 exam session

• New RTCR Need-To-Know (NTK) criteria were added to the on-line edition of the New Mexico Water Sampling Certification Study Guide in March 2016
Contact Information

• NMED Drinking Water Bureau
  • www.nmenv.state.nm.us/dwb/dwbtop.html
  • Albuquerque Field Office – (505) 222-9500
  • Santa Fe Field Office – (505) 476-8600
  • Clovis Field Office – (505) 762-3728
  • Las Cruces Field Office – (505) 524-6300

• USEPA website - www.epa.gov/safewater

• USEPA Safe Drinking Water Hotline
  • (800) 426-4791; hotline-sdwa@epamail.epa.gov