

New Mexico Environment Department  
Utility Operator Certification Program

**WATER DISTRIBUTION SYSTEM – LEVEL 3 (DS3)**  
**Operator Guidebook with Need to Know Criteria**

March 2026<sup>1</sup>

The New Mexico Environment Department (NMED) administers the Utility Operator Certification Program to implement and enforce the rules of 20.7.4 NMAC (New Mexico Administrative Code) pursuant to the Utility Operators Certification Act [Chapter 61, Article 33 NMSA 1978].

**Water Distribution System – Level 3 (DS3)**

According to Subsection B of 20.7.4.12 NMAC, the Water Distribution System – Level 3 (DS3) certification is required to operate the various types of distribution systems at public water supply systems as listed below.

Type of Distribution Systems	Population Served				
	25 to 500	501 to 5,000	5,001 to 10,000	10,001 to 20,000	20,000+
Distribution of treated surface water	←	←	←	←	<b>DS3</b>
Distribution of chlorinated groundwater	←	←	←	←	<b>DS3</b>
Distribution of unchlorinated groundwater	←	←	←	←	<b>DS3</b>

(“←” signifies DS3 also covers lower categories)

**Certification Eligibility**

To be eligible to take the Water Distribution System – Level 3 exam, an applicant must meet the following criteria. However, some criteria substitutions may be allowed as listed in the table provided on the next page. [References: 20.7.4.21 NMAC, and 20.7.4.22 NMAC]

- Submit a complete application through the NMED Utility Operator Certification Program online platform and pay the nonrefundable examination application fee.
- Be at least 18 years of age.
- Have a High School diploma or general equivalency diploma.
- Have a minimum of four years of experience\*.

“**Experience**” means actual work experience, full or part-time, as an operator in the fields of public water supply or public wastewater treatment; work experience in a related field may be accepted at the discretion of the NMED.

[Reference: Subsection K of 20.7.4.7 NMAC]

- Complete a minimum of fifty (50) training credits covering the topics listed in the need-to-know criteria of this document.

<sup>1</sup> This Guidebook was reviewed by the New Mexico Utility Operators Certification Advisory Board in January and February 2026.

<b>DS3 Eligibility Criteria</b>		<b>Allowable Substitutions</b> as set forth in Subsection B of 20.7.4.22 NMAC
<b>Application</b>	Completed application	No substitutions.
<b>Fee</b>	Payment of examination application fee	No substitutions.
<b>Age</b>	Evidence of Age of Majority (18 years of age)	No substitutions.
<b>Education</b>	High School or general equivalency diploma	1. In no case shall the actual experience be less than one year for any level except as in Subparagraph (d) of Paragraph (2) listed below.  2. Education may be substituted for the basic requirements or used for training credits as follows. In no case may the same education serve both as a substitute for experience and as training credits except as provided in the following paragraphs.  a) One (1) year of additional experience may be substituted for the high school graduation or general equivalency diploma requirement. b) No more than one year (30 semester hours) of successfully completed college education in a non-related field may be substituted for any additional six months of the required experience. c) One year of an approved vocational school in the water and/or wastewater field may be substituted for only one additional year of the required experience. d) An associate’s degree for a two-year program in an approved school in the water and/or wastewater field and twelve months of actual experience in that field (which may be accrued before, during, or after the school program) may be substituted for the requirements of a level 3. e) Completion of at least three years of actual experience in the water and/or wastewater field plus high school diploma or equivalent, plus 15 semester hours of successfully completed college education directly related to the water or wastewater field may be substituted for any level up to and including level 3. f) A bachelor's degree for a major directly related to the water or wastewater field plus two years of actual experience in that field may be substituted for any level up to and including level 3.  3. Full time water and wastewater laboratory experience may be substituted for operator experience in a respective field at a rate of 25 percent of the actual experience held.
<b>Experience*</b>	Four (4) years	
<b>Training</b>	Fifty (50) hours of approved training credits	
<b>Exam</b>	Pass the DS3 exam	No substitutions.

\* “Experience” definition provided on previous page (page 1 of this document)

A supplemental **DS3 Application Scenarios Pamphlet** may be available from NMED to help explain allowable substitution pathways.

Renewal Training Credits

DS3 operator certification must be renewed at three-year intervals. Certification renewal requires the holder obtain thirty (30) training credits for approved training during the three-year period preceding the date on which the renewal application is due. The thirty training credits must be in support of the DS3 operator's job and must include at least ten (10) training credits for approved training specifically in the operations and maintenance of public drinking water distribution systems. NMED Utility Operator Certification Program approval of training credits will be based on alignment with the topics listed in the need-to-know criteria of this document.

Exam Content

NMED and a panel of subject-matter experts developed the **Water Distribution System – Level 3 (DS3)** operator certification exam. The DS3 certification exam consists of 120 multiple-choice questions that cover the 12 main content areas listed below. This need-to-know criteria document provides a breakdown of the topics and subtopics within each main content area. A list of suggested study references is provided at the end of this document. The minimum passing score on the DS3 exam is 70% (84/120).

Main Content Areas		Number of Exam Questions
1	Administration	5
2	Chemical Stabilization	3
3	Cross-Connection Control	6
4	Disinfection	12
5	Distribution	40
6	General	12
7	Mechanical Systems	10
8	Regulations	3
9	Safety	11
10	Sampling and Reporting	7
11	Storage	6
12	Taste and Odor	5

Total: 120 questions on exam

**NEED-TO-KNOW CRITERIA FOR  
WATER DISTRIBUTION SYSTEM – LEVEL 3 (DS3)**

Content Area and Topics	Number of Exam Questions
<b>1. <u>Administration</u></b>	<b>5</b>
Finance Personnel Supervision Records	

Content Area and Topics	Number of Exam Questions
<b>2. <u>Chemical Stabilization</u></b>	<b>3</b>
Corrosion Control Provisions of Lead & Copper Rule pH adjustment	

Content Area and Topics	Number of Exam Questions
<b>3. <u>Cross-Connection Control</u></b>	<b>6</b>
Applications General Maintenance Programs Types of devices	

Content Area and Topics	Number of Exam Questions
<b>4. <u>Disinfection</u></b>	<b>12</b>
<ul style="list-style-type: none"> <li>Gas chlorination               <ul style="list-style-type: none"> <li>Changing cylinders</li> <li>Components</li> <li>Equipment used</li> <li>Leaks</li> <li>Maintenance</li> <li>Operation</li> <li>Safety</li> <li>Storage &amp; handling</li> <li>Troubleshooting</li> </ul> </li> <li>Hypochlorination               <ul style="list-style-type: none"> <li>Equipment used</li> <li>Maintenance</li> <li>Operation</li> <li>Safety</li> <li>Storage &amp; handling</li> </ul> </li> <li>Process description               <ul style="list-style-type: none"> <li>Dosage</li> <li>Factors affecting disinfection</li> <li>Purpose</li> <li>Reactions of chlorine</li> <li>Typical pathogens</li> </ul> </li> <li>Residual</li> </ul>	

Content Area and Topics	Number of Exam Questions
<b>5. <u>Distribution</u></b>	<b>40</b>
<ul style="list-style-type: none"> <li>Customer service</li> <li>Hydrants               <ul style="list-style-type: none"> <li>Components</li> <li>Flow testing</li> <li>Installation</li> <li>Maintenance &amp; flushing</li> <li>Purpose</li> </ul> </li> <li>Hydraulics               <ul style="list-style-type: none"> <li>System pressure</li> </ul> </li> <li>Maps</li> <li>Meters               <ul style="list-style-type: none"> <li>Accountability</li> <li>Maintenance</li> <li>Types</li> </ul> </li> <li>Piping &amp; joints               <ul style="list-style-type: none"> <li>Hydraulics</li> <li>Installation</li> <li>Materials</li> <li>Operations &amp; maintenance</li> <li>Thrust</li> </ul> </li> <li>Valves               <ul style="list-style-type: none"> <li>Operation &amp; maintenance</li> <li>Purpose</li> <li>Types</li> </ul> </li> <li>Water quality</li> </ul>	

Content Area and Topics	Number of Exam Questions
<b>6. <u>General</u></b>	<b>12</b>
<ul style="list-style-type: none"> <li>Basic chemistry               <ul style="list-style-type: none"> <li>pH</li> <li>Symbol identification</li> </ul> </li> <li>Calculation (generally under specific topics)               <ul style="list-style-type: none"> <li>Dosage</li> <li>Efficiency</li> <li>Flow</li> <li>Hydraulics</li> <li>Power</li> <li>Pressure</li> <li>Temperature</li> <li>Volume</li> </ul> </li> <li>Measurement Units</li> <li>Purpose</li> <li>Water characteristics               <ul style="list-style-type: none"> <li>Chemical</li> <li>Microbiological</li> <li>Physical</li> </ul> </li> <li>Terms</li> </ul>	

Content Area and Topics	Number of Exam Questions
<b>7. <u>Mechanical Systems</u></b>	<b>10</b>
<ul style="list-style-type: none"> <li>Chemical feeders                             <ul style="list-style-type: none"> <li>Calibration</li> <li>Operation &amp; maintenance</li> <li>Types</li> </ul> </li> <li>General maintenance</li> <li>Instrumentation                             <ul style="list-style-type: none"> <li>Metering equipment</li> <li>Operation &amp; maintenance</li> </ul> </li> <li>Motors                             <ul style="list-style-type: none"> <li>Components</li> <li>Controls &amp; wiring</li> <li>Coupling alignment &amp; maintenance</li> <li>Maintenance-general</li> <li>Operation</li> </ul> </li> <li>Pumps                             <ul style="list-style-type: none"> <li>Components</li> <li>Hydraulics</li> <li>Maintenance</li> <li>Operation</li> <li>Power (efficiency)</li> <li>Troubleshooting</li> <li>Types</li> </ul> </li> <li>Valves                             <ul style="list-style-type: none"> <li>Characteristics</li> <li>Operations &amp; maintenance</li> <li>Types</li> </ul> </li> </ul>	

Content Area and Topics	Number of Exam Questions
<b>8. <u>Regulations</u></b>	<b>3</b>
<ul style="list-style-type: none"> <li>EPA SDWA Regulations</li> <li>NM Utility Operator Certification Regulations</li> <li>NM Drinking Water Regulations</li> </ul>	

Content Area and Topics	Number of Exam Questions
<b>9. <u>Safety</u></b>	<b>11</b>
Chemical handling Confined space entry Electrical Emergency Action Plan Excavation & shoring Facility Security Fire First aid Hazardous gases Job Safety Hazard Analysis Ozone Safety Personal Programs Rotating machinery Safety Data Sheets Working in streets	

Content Area and Topics	Number of Exam Questions
<b>10. <u>Sampling &amp; Reporting</u></b>	<b>7</b>
Records Reporting requirements SDWA compliance sampling <ul style="list-style-type: none"> <li>Asbestos</li> <li>Chemical contaminants</li> <li>Disinfection byproducts group</li> <li>Lead and Copper group</li> <li>Microbiological contaminants</li> <li>Physical contaminants</li> <li>Public notification requirements</li> </ul> Sampling procedure <ul style="list-style-type: none"> <li>Preservation</li> <li>Representative sampling</li> </ul> Testing <ul style="list-style-type: none"> <li>Process description               <ul style="list-style-type: none"> <li>Components</li> <li>Purpose</li> <li>Types</li> </ul> </li> </ul>	

Content Area and Topics	Number of Exam Questions
<b>11. Storage</b>	<b>6</b>
<ul style="list-style-type: none"> <li>Operations &amp; maintenance               <ul style="list-style-type: none"> <li>Corrosion control</li> <li>Disinfection</li> <li>Inspection</li> </ul> </li> <li>Process description               <ul style="list-style-type: none"> <li>Components</li> <li>Purpose</li> <li>Types</li> </ul> </li> </ul>	

Content Area and Topics	Number of Exam Questions
<b>12. Taste &amp; Odor Control</b>	<b>5</b>
<ul style="list-style-type: none"> <li>Causes &amp; Prevention</li> <li>Operation &amp; maintenance               <ul style="list-style-type: none"> <li>Normal &amp; abnormal conditions</li> <li>Problems &amp; corrections</li> <li>Troubleshooting</li> </ul> </li> <li>Process control</li> <li>Process description               <ul style="list-style-type: none"> <li>Activated carbon</li> <li>Aeration</li> </ul> </li> <li>Purpose</li> <li>Types</li> </ul>	

## SUGGESTED STUDY RESOURCES

The following is a non-inclusive, non-endorsement listing of reference sources that can be reviewed to help prepare for the New Mexico **Water Distribution System – Level 3 (DS3)** operator certification exam.

### Drinking Water Distribution

- American Water Works Association (AWWA), Water System Operations (WSO), *Water Distribution, Grades 3 & 4*, (latest edition)
- American Water Works Association (AWWA), *Water Distribution Operator Training Handbook*, (latest edition)
- California State University, Sacramento (CSUS) Foundation, Office of Water Programs, *Water Distribution System Operation and Maintenance*, (latest edition)

### Utility Management

- American Water Works Association (AWWA), *Utility Management for Water and Wastewater Operations*
- California State University, Sacramento (CSUS) Foundation, Office of Water Programs, *Utility Management*, (latest edition)
- California State University, Sacramento (CSUS) Foundation, Office of Water Programs, *Manage for Success: Effective Utility Leadership Practices*, (latest edition)

### Mathematics

- American Water Works Association (AWWA), *Math for Distribution System Operators: Practice Problems to Prepare for Distribution System Operator Certification Exams*
- *Applied Math for Water Plant Operators*, by Joann Kirkpatrick Price, (latest edition)

### Regulations

- Safe Drinking Water Act, <https://www.epa.gov/sdwa>, and U.S. Code of Federal Regulations, Title 40, Part 141
- U.S. Environmental Protection Agency, Drinking Water Rule Quick Reference Guides, <https://www.epa.gov/dwreginfo/drinking-water-rule-quick-reference-guides>
- New Mexico Administrative Code, Title 20, Chapter 7, Part 10, Drinking Water (20.7.10 NMAC)
- New Mexico Administrative Code, Title 20, Chapter 7, Part 4, Utility Operator Certification (20.7.4 NMAC)

Water Sampling

- American Water Works Association, American Public Health Association, and Water Environment Federation, *Standard Methods for the Examination of Water and Wastewater* (latest edition)
- U.S. Environmental Protection Agency, *Quick Guide to Drinking Water Sample Collection* (latest edition)
- U.S. Environmental Protection Agency, *The Standardized Monitoring Framework: A Quick Reference Guide*

Worker Safety

- American Water Works Association (AWWA), *Let's Talk Safety: 52 Talks on Common Utility Safety Practices for Water Professionals*, (latest edition)
- American Water Works Association (AWWA), *Chlorine Safety Pocket Guide*, (latest edition)

Additional Study Aids

- American Water Works Association (AWWA), *Water Operator Certification Exam Prep*
- American Water Works Association (AWWA), *Water Operator Certification Exam Prep App*