New Mexico Environment Department
Utility Operator Certification Program

WASTEWATER COLLECTION SYSTEM – LEVEL 1 (CS1)

Operator Guidebook with Need to Know Criteria

March 2026[1]

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].

Wastewater Collection System – Level 1 (CS1)
According to Subsection B of 20.7.4.13 NMAC, the Wastewater Collection System – Level 1 (CS1) certification is required to operate collection systems at the various sizes of public wastewater facilities as listed below.

Population Served	25 to 500	501 to 5,000	5,001 to 10,000	10,001 to 20,000	20,000+
Level of Certification	←	CS1	CS1	---	---

("←" *signifies CS1 also covers lower categories*)

Exam Eligibility
To be eligible to take the Wastewater Collection System – Level 1 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 one year 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 ten (10) training credits covering the topics listed in the need-to-know criteria of this document.

[1] This Guidebook was reviewed by the New Mexico Utility Operators Certification Advisory Board in January and February 2026.

CS1 Eligibility Criteria		**Allowable Substitutions** as set forth in Subsection B of 20.7.4.22 NMAC
Application	Completed application	No substitutions
Fee	Payment of examination application fee	No substitutions
Age	Evidence of Age of Majority (18 years of age)	No substitutions
Education	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 six 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 any level up to and including level 2. 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.
Experience*	One (1) year	
Training	Ten (10) hours of approved training credits	
Exam	Pass the CS1 exam	No substitutions

* "Experience" definition provided on previous page (page 1 of this document)

A supplemental **CS1 Application Scenarios Pamphlet** may be available from NMED to help explain allowable substitution pathways.

Renewal Training Credits

CS1 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 CS1 operator's job and must include at least ten (10) training credits for approved training specifically in the operations and maintenance of wastewater collection 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 **Wastewater Collection System – Level 1 (CS1)** operator certification exam. The CS1 certification exam consists of 100 multiple-choice questions that cover the seven (7) 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 CS1 exam is 70% (70/100).

	Main Content Areas	Number of Exam Questions
1	Collection Systems	32
2	Cross-Connection Control	3
3	General	23
4	Mechanical Systems	20
5	Regulations	3
6	Safety	17
7	Sampling & Reporting	2
	Total:	100 questions on exam

NEED-TO-KNOW CRITERIA FOR
WASTEWATER COLLECTION SYSTEM – LEVEL 1 (CS1)

Content Area and Topics	Number of Exam Questions
1. Collection Systems	**32**
Cleaning & maintenance Hydraulic cleaning Preventative maintenance Rodding Stoppages Lift stations Components Maintenance Operation Typical layout Manholes Components Location & types Maps Piping & joints Bedding & backfill Components Installation Materials Operation Problems & repairs Service connections	

Content Area and Topics	Number of Exam Questions
2. Cross-Connection Control	**3**
Application General Maintenance Types of devices	

Content Area and Topics	Number of Exam Questions
3. General	**23**
Basic chemistry Formulas pH Calculation (generally under specific topics) Dosage Efficiency Flow Hydraulics Volume Measurement Units Pollution removal Effluent limits Removal efficiencies Wastewater characteristics BOD Chemical Microbiological Physical Prohibited substances Solids Terms	

Content Area and Topics	Number of Exam Questions
4. Mechanical Systems	**20**
Chemical feeders Calibration Operation & maintenance Types General maintenance Metering equipment Motors Components Maintenance Operation Pumps Components Hydraulics Maintenance Operation Troubleshooting Types Valves Characteristics Operations & maintenance	

Content Area and Topics	Number of Exam Questions
5. Regulations	**3**
NM Utility Operator Certification Regulations (20.7.4 NMAC) NM Ground Water Regulations (20.6.2 NMAC) NPDES permit requirements	

Content Area and Topics	Number of Exam Questions
6. Safety	**17**
Chemical handling Confined space entry Electrical Excavation & shoring Fire First aid Hazardous gases Safety Data Sheets (SDS) Personal Protective Equipment Programs Rotating machinery Working in streets	

Content Area and Topics	Number of Exam Questions
7. Sampling & Reporting	**2**
Grab sampling Composite sampling H2S Methane Toxicity	

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 **Wastewater Collection System – Level 1 (CS1)** operator certification exam.

Wastewater Collection

- California State University, Sacramento (CSUS) Foundation, Office of Water Programs, *Operation and Maintenance of Wastewater Collection Systems, Volume 1,* (latest edition)
- California State University, Sacramento (CSUS) Foundation, Office of Water Programs, *Operation and Maintenance of Wastewater Collection Systems, Volume 2*, (latest edition)

Mathematics

- *Basic Math Concepts for Water and Wastewater Plant Operators*, by Joanne Kirkpatrick Price, (latest edition)

Regulations

- Clean Water Act, https://www.epa.gov/laws-regulations/summary-clean-water-act, and U.S. Code of Federal Regulations, Title 40
- U.S. Environmental Protection Agency, National Pollutant Discharge Elimination System (NPDES), https://www.epa.gov/npdes
- New Mexico Administrative Code, Title 20, Chapter 6, Part 2, Ground and Surface Water Protection (20.6.2 NMAC)
- New Mexico Administrative Code, Title 20, Chapter 7, Part 4, Utility Operator Certification (20.7.4 NMAC)

Safety and Security

- Water Environment Federation (WEF), *Safety, Health, and security Standards for Water Resource Recovery, Manual of Practice 1* (latest edition)

Additional Study Aids

- Water Environment Federation (WEF), *Wastewater Collection System Operator Certification Studybook* (latest edition)
- Walter S. Cane, *Wastewater Collection Operator Certification Practice Exams: Level 1*, (latest edition)