
1 Regulations Related to Wastewater Treatment

This is for establishing the level of treatment of the wastewater.

1.1 Treated Wastewater - NPDES Permit

The National Pollutant Discharge Elimination System (NPDES) permit program addresses water pollution by regulating point sources that discharge pollutants to waters of the United States.

- The NPDES permit program was created in 1972 by the Clean Water Act (CWA).
- Applies to sources that discharge pollutants to waters of the United States.
- Requires all facilities discharging “pollutants” into any body of water in the USA to obtain and comply with a **NPDES permit**.
- NPDES permit **establishes** discharge limits, monitoring and reporting **requirements**
- In California, the responsibility of implementing the federal NPDES program is delegated to the State of California through the State Water Resources Control Board (State Water Board or SWRCB) and the nine Regional Water Quality Control Boards (Regional Water Boards), collectively Water Boards. In California, NPDES permits are also referred to as waste discharge requirements (WDRs) that regulate discharges to waters of the United States.

2 Sewage Sludge/Biosolids Regulations

The Clean Water Act also stipulates control of the the quality of sludge/biosolids produced from the wastewater treatment operations. Federal Regulation 40CFR Part 503 also known as Rule 503 as stipulated by the Clean Water Act

- Part 503 rule applies to any person who applies biosolids to the land or fires biosolids in a biosolids incinerator, and to the owner/operator of a surface disposal site, or to any person who is a preparer or generator of biosolids for use, incineration, or disposal.

- Part 503 standard includes:
 1. General requirements
 2. Pollutant limits
 3. Management practices
 4. Operational standards, and
 5. Requirements for the frequency of monitoring, record-keeping, and reporting

3 Air Quality Regulations

- Air emissions from wastewater collections and treatment systems are subject to federal, state and local air quality related rules and regulations established to protect human health and comfort, and the environment.
- Typically, a local agency such as the South Coast Air Quality Management District is designated to enact and enforce air quality rules and regulations which apply to all sources of air emissions including wastewater treatment plants.
- Related to its air pollutants emissions, Wastewater treatment plants are required to:
 - Obtain air quality related operating permits for equipment and processes which emit air pollutants and for its systems treating foul air.
 - Implement air emission pollutants control measures
 - Comply with record keeping and reporting requirements
 - Comply with air quality rules to prevent public nuisance and protect public health and safety

also include ones to protect Many states As in other states, California Health and Safety Code Section 41700 and District Rule 51 states that no person can discharge air contaminants that cause injury, nuisance or annoyance to any considerable number of persons or the public, or that endanger the comfort, health or safety of such persons.

4 Regulations Related to Wastewater Treatment Operations and Maintenance

4.1 Operator Certification

- The requirements of the Operator Certification program is established for each state. These meet the Operator Certification Requirements of the regulations stemming from the 1996 Amendments to the Safe Drinking Water Act.
- The goal is to ensure that operators of wastewater treatment facilities in the State meet the minimum level of competence; thereby, protecting public health and the environment.
- In California, the Wastewater Operator Certification program (WWOCP) administers Wastewater Treatment Plant Certification examinations, certifications (grades I to V), and certification renewals.
- WWOCP classifies Wastewater Treatment Plants and stipulates that no person shall operate a wastewater treatment plant unless that person has been certified by the division as a wastewater treatment plant operator or operator-in-training at a grade appropriate for the class of plant being operated.
- A certified operator or operator-in-training may be subject to administrative sanctions including reprimand or denial, suspension, probation, or revocation of the operator certification for performing, or allowing or causing another to perform acts which include:
 - Operating or allowing the operation of a wastewater treatment plant by a person who is not certified at the grade necessary for the position
 - failing to use care or good judgment in the course of employment as an operator or failing to apply knowledge or ability in the performance of duties.
 - Negligence causing the violation of appropriate waste discharge requirements of the NPDES permit

Classification of Wastewater Treatment Plants

| <u>Class</u> | <u>Treatment Process</u> | <u>Design Flow</u> (in million gallons per day) |
|--------------|--------------------------|----------------------------------------------------|
| I | Pond..... | All |
| | Primary..... | 1.0 or less |
| II | Primary..... | Greater than 1.0 through 5.0 |
| | Biofiltration..... | 1.0 or less |
| | Extended Aeration..... | All |
| III | Primary..... | Greater than 5.0 through 20.0 |
| | Biofiltration..... | Greater than 1.0 through 10.0 |
| | Activated Sludge..... | 5.0 or less |
| | Tertiary..... | 1.0 or less |
| IV | Primary..... | Greater than 20.0 |
| | Biofiltration..... | Greater than 10.0 through 30.0 |
| | Activated Sludge..... | Greater than 5.0 through 20.0 |
| | Tertiary..... | Greater than 1.0 through 10.0 |
| V | Biofiltration..... | Greater than 30.0 |
| | Activated Sludge..... | Greater than 20.0 |
| | Tertiary..... | Greater than 10.0 |

Certificate Requirements for Water Recycling Treatment Plants

| Wastewater Treatment Plant Classification | Water Treatment Plant Operator Certificate | Wastewater Treatment Plant Operator Certificate |
|-------------------------------------------|--------------------------------------------|-------------------------------------------------|
| I | T1 | Grade I |
| II | T2 | Grade II |
| III | T3 | Grade III |
| IV | T4 | Grade IV |
| V | T5 | Grade V |

Grade Levels of Operator Certifications

| Wastewater Treatment Plant Classification | Minimum Grade Level of Chief Plant Operator | Minimum Grade Level of Designated Operator-in-Charge |
|-------------------------------------------|---------------------------------------------|------------------------------------------------------|
| I | I | I |
| II | II | I |
| III | III | II |
| IV | IV | III |
| V | V | III |

OPERATOR CERTIFICATION REQUIREMENTS TABLE

(Effective April 1, 2013)

Note: Applicants must take and pass the Office of Operator Certification Wastewater Treatment Plant Operator Examination before applying for Certification:

| PATH | EXAMINATION EDUCATION REQUIREMENTS | | CERTIFICATION QUALIFYING EXPERIENCE REQUIREMENTS |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------------------------------------------------------|
| GRADE I | | | |
| 1 | High school diploma or equivalent and 6 educational points | and | 1 year of full-time qualifying experience |
| GRADE II | | | |
| 1 | High school diploma or equivalent and 9 educational points | and | 18 months of full-time qualifying experience as a Grade I operator |
| 2 | High school diploma or equivalent and 12 educational points | and | 2 years of full-time qualifying experience |
| 3 | Associate's degree, a higher degree, or a minimum of 60 college semester units, including a minimum of 15 semester units of science courses | and | 1 year of full-time qualifying experience |
| GRADE III | | | |
| 1 | High school diploma or equivalent and 12 educational points | and | 3 years of full-time qualifying experience as a Grade II operator |
| 2 | High school diploma or equivalent and 18 educational points | and | 4 years of full-time qualifying experience |
| 3 | Associate's degree or a minimum of 60 college semester units, including a minimum of 15 semester units of science courses | and | 2 years of full-time qualifying experience |
| 4 | Bachelor's degree or a higher degree, including a minimum of 30 semester units of science courses | and | 1 year of full-time qualifying experience |

| GRADE IV | | | |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------------------------------|
| 1 | High school diploma or equivalent and 32 educational points | and | 6 years of full-time qualifying experience |
| 2 | Associate's degree or a minimum of 60 college semester units, including a minimum of 15 semester units of science courses | and | 4 years of full-time qualifying experience |
| 3 | Bachelor's degree or a higher degree, including a minimum of 30 semester units of science courses | and | 3 years of full-time qualifying experience |
| 4 | Valid registration as a chemical, civil, or mechanical engineer issued by the California Board for Professional Engineers and Land Surveyors or by another state, territory, or Indian tribe | and | 2 years of full-time qualifying experience |
| GRADE V | | | |
| 1 | High school diploma or equivalent and 48 educational points | and | 10 years full-time qualifying experience |
| 2 | Associate's degree or a minimum of 60 college semester units, including a minimum of 15 semester units of science courses | and | 6 years of full-time qualifying experience |
| 3 | Bachelor's degree or a higher degree, including a minimum of 30 semester units of science courses | and | 5 years of full-time qualifying experience |
| 4 | Valid registration as a chemical, civil, or mechanical engineer issued by the California Board for Professional Engineers and Land Surveyors or by another state, a territory, or an Indian tribe | and | 4 years of full-time qualifying experience |

| Units (Semesters) | Educational Points |
|---------------------------------|---------------------------|
| 1 | 2.5 |
| 2 | 5.5 |
| 3 | 8.0 |
| 4 | 10.5 |
| 5 | 13.5 |
| 6 | 16.0 |
| Units (Quarter) 12 weeks | Educational Points |
| 1 | 1.5 |
| 2 | 3.5 |
| 3 | 5.5 |
| 4 | 7.0 |
| 5 | 9.0 |
| 6 | 10.5 |

4.2 Worker Safety

- Wastewater treatment facility can be an extremely unsafe occupational field
- It involves most of the major categories of workplace hazards: biological, chemical, physical, safety and ergonomic, accentuated with other factors such as shift work and diverse tasks.
- Entities including The Occupational Safety and Health Administration(OSHA) National Electrical Code (NEC), National Fire Protection Association (NFPA), Underwriters Laboratory (UL) have recognized these hazards and implemented codes and standards to protect the affected persons and wastewater workers.