



California Wastewater Operator Certification Program

Advisory Group on Direct Potable Reuse of Recycled Water
February 20, 2015



Wastewater Operator Overview

- Approximately 6,000 Certified WW Operators in CA
 - **Operate:** actions or decisions to control the performance or outcome of one or more wastewater treatment processes; includes the supervision of other operators acting or making decisions to control the performance or outcome of one or more wastewater treatment processes.
- 5 Operator Grades & 5 Plant Class Levels
 - Minimum “Chief Plant Operator” & “Designated Operator-in-Charge” Levels Specified Based on Plant Class
- Certification Requirements
 - Minimum Educational Points by Grade
 - Practical Experience (On-the-job) Requirements by Grade
 - Can substitute ed. points for experience on limited basis, but all operators must have a minimum specified practical experience.
 - Can include certified water operator experience on limited basis.
 - Pass Grade Level Exam
- WW Operator Exams 2X per Year
 - April and October

Chief Plant Operator (CPO) & Designated Operator-in-Charge

- California Code of Regulations, title 23, division 3, chapter 26
 - **Chief Plant Operator:** responsible for overall operation of a wastewater treatment plant including compliance with effluent limitations and supervision of operators-in-training as required by section 3682.
 - **Designated Operator-in-Charge:** operator appointed by the CPO to be responsible for the overall operation of a plant, including compliance with effluent limitations, when the CPO is unable to carry out the his or her responsibilities.

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

Education and Experience Requirements

Operator Grade	Education	Qualifying Experience
I	High school diploma or equivalent and 6 educational points	1 year of full-time qualifying experience
II	High school diploma or equivalent and 9 educational points	18 months of full-time qualifying experience as a Grade I operator
	High school diploma or equivalent and 12 educational points	2 years of full-time qualifying experience
	Associate's degree, a higher degree, or a minimum of 60 college semester units, including a minimum of 15 semester units of science courses	1 year of full-time qualifying experience
III	High school diploma or equivalent and 12 educational points	3 years of full-time qualifying experience as a Grade II operator
	High school diploma or equivalent and 18 educational points	4 years of full-time qualifying experience
	Associate's degree or a minimum of 60 college semester units, including a minimum of 15 semester units of science courses	2 years of full-time qualifying experience
	Bachelor's degree or a higher degree, including a minimum of 30 semester units of science courses	1 year of full-time qualifying experience

Education and Experience Requirements

Operator Grade	Education	Qualifying Experience
IV	High school diploma or equivalent and 32 educational points	6 years of full-time qualifying experience
	Associate's degree or a minimum of 60 college semester units, including a minimum of 15 semester units of science courses	4 years of full-time qualifying experience
	Bachelor's degree or a higher degree, including a minimum of 30 semester units of science courses	3 years of full-time qualifying experience
	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	2 years of full-time qualifying experience
V	High school diploma or equivalent and 48 educational points	10 years full-time qualifying experience
	Associate's degree or a minimum of 60 college semester units, including a minimum of 15 semester units of science courses	6 years of full-time qualifying experience
	Bachelor's degree or a higher degree, including a minimum of 30 semester units of science courses	5 years of full-time qualifying experience
	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	4 years of full-time qualifying experience

Plant Classifications

Class	Treatment Process	Design Flow (in MGD)
I	Conventional Treatment Pond	All
	Primary	1.0 or less
II	Primary	Greater than 1.0 through 5.0
	Biofiltration	1.0 or less
	Modified Treatment Pond	All
III	Primary	Greater than 5.0 through 20.0
	Biofiltration	Greater than 1.0 through 10.0
	Activated Sludge	5.0 or less
	Sequencing Batch Reactor	1.0 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
	Sequencing Batch Reactor	Greater than 1.0 through 10.0
	Tertiary	Greater than 1.0 through 10.0
V	Biofiltration	Greater than 30.0
	Activated Sludge	Greater than 20.0
	Sequencing Batch Reactor	Greater than 10.0
	Tertiary	Greater than 10.0

Exam Formats

Grade Level	Content
I	True/False, Multiple Choice, and Multiple Choice Math (Not required to show work for correct Math answer, but can show work for partial credit.)
II	True/False, Multiple Choice, and Multiple Choice Math (Not required to show work for correct Math answer, but can show work for partial credit.)
III	True/False, Multiple Choice, Essay, and Long-Hand Math (Essay and Math hand-graded; must show work for credit.)
IV	Multiple Choice, Essay, and Long-Hand Math (Essay and Math hand-graded; must show work for credit.)
V	Multiple Choice, Essay, and Long-Hand Math (Essay and Math hand-graded; must show work for credit.)

Examination Statistics

Overall Exam	
Grade Level	Average Pass Rate, %
I	67.8
II	53.4
III	46.0
IV	39.6
V	49.3

October 2014 Exam	
Grade Level	Pass Rate, %
I	54.6
II	72.0
III	43.4
IV	42.4
V	35.1

Water Recycling Treatment Plant Operators

- California Code of Regulations, title 23, division 3, chapter 26
 - **Water Recycling Treatment Plant:** (or water reclamation plant) a wastewater treatment plant that receives and further treats secondary or tertiary effluent from another wastewater treatment plant for the purpose of meeting the uniform statewide recycling criteria of section 13521 of the Water Code.
- Water Treatment Plant Operators can operate Water Recycling Treatment Plants

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

Advisory Committee

- 9 Members; Statutorily Required; Appointed by State Water Board
 - 2 operators employed at wastewater treatment plants and members of a statewide organization representing operators
 - 2 individuals from statewide organizations representing municipalities, including counties or private utility wastewater treatment plants
 - 2 individuals from statewide organizations representing local sanitation agencies other than agencies specified above
 - 1 professional engineer specializing in sanitary engineering
 - 1 individual from a university or state university school or division of engineering
 - 1 member of organized labor union representing operators
- Members serve for four years, and are eligible for reappointment
- Committee meets when necessary to review and make recommendations to State Water Board regarding all proposed regulations and assist State Water Board in carrying out its responsibilities